

RHIC QLI Events for the month of November

RHIC Physics fy05 (2004-2005)

Date:	Reference ID	B	Y	QLI	Technical Notes	Analysis	Real Mag Quench Loc:	Beam Induced:	Magnets Quenched:
29-Nov	MS-001	1		8b-ps1	Blue quench link trip was caused by the 8b-qd1-quench detector. The quench detector tripped because of a real magnet quench at B7QFQ2_VT. The beam permit tripped .008 sec before the quench link. There was a real magnet quench at b7q2. There was a moderate beam loss at g7-ln1 for over 1 sec. There is now 1 beam induced quench for this run. - Ganetis [quench]	Beam Induced 001	b7q2	1	1
29-Nov	MS-002	1		6b-ps1	Blue quench link trip was caused by b6-dh0-ps when the p.s. was being turned on. The p.s. had an error fault. Ganetis [quench]	Power Supply Fault, b6-dh0-ps			
29-Nov	MS-003	1		6b-ps1	Blue quench link trip was caused by b6-dh0-ps when the p.s. was being turned on. The p.s. had an error fault. Ganetis [quench]	Power Supply Fault, b6-dh0-ps			
29-Nov	MS-004	1		6b-ps1	G. Ganetis reported to MCR that 6b-dh0 has been tripping off at turnOn when issued by the quench recovery program. D. Bruno was then contacted and he has J. Drozd & B. Karpin coming in to repair the power supply. - BvK [rhic] [ps]	Power Supply Fault, b6-dh0-ps			
29-Nov	MS-005	1		6b-ps1	Spoke to Joe Drozd. Found a problem with the time delay circuit for the power supply. They have to replace a resistor. Estimate 1/2 hr. - Sanjee	Power Supply Fault, b6-dh0-ps			
29-Nov	MS-006	1		4b-time A	While a Technician was sizing up a safety cover to eliminate accidental trips to off as has occurred during the summer, the off switch was slightly pushed, causing the UPS to shutdown. Heppner	UPS turned off			
29-Nov	MS-007	M		4b-time A	Scheduled Maintenance : 0830 to 1530	Maintenance			
30-Nov	MS-008	1		2b-ps1	George requested the blue link be brought down so I ramped the p.s.'s to zero and turned off p.s. b11-qd2-ps to bring the blue link down. - Don Bruno	Valve Box work.			
30-Nov	MS-009	1		8b-ps1	The blue quench link trip was caused by the 8b-qd1-quench detector. The quench detector tripped because of a real magnet quench at B8QFQ2_VT. BLM indicated oscillations of beam with high losses at b8-ln2.1 causing a real magnet quench at b8q2. There are now 2 beam induced quench for this run. - Heppner [quench]	Beam Induced 002	b8q2	1	1
Total Counts:		8	0					2	2

RHIC QLI Events for the month of December

Date:	Reference ID	B	Y	QLI	Technical Notes	Analysis	Real Mag Quench Loc:	Beam Induced:	Magnets Quenched:
1-Dec	MS-010	M	M	2b-ps1	Scheduled Maintenance: 0930 to 2000. Brought down the Blue Link by putting b2-q89 to Standby then to off. Placed all Service buildings to off for LOTO purposes as per Don Bruno. Heppner	Maintenance			
2-Dec	MS-011	I		4b-time.A	Reference to MS-014	Reference to MS-014			
2-Dec	MS-012	I		4b-time.A	Reference to MS-014	Reference to MS-014			
2-Dec	MS-013	I		4b-time.A	Reference to MS-014	Reference to MS-014			
2-Dec	MS-014	I		4b-time.A	MCR called Carl Schultheiss as they thought the Blue Main Power Supplies to be the cause as they tripped several times at around 445A. The confusion may have been the time stamp. (4b-time.A) Which indicates an IR problem. After analyzing that it was not the mains, Carl called Don Bruno who took over with the assistance of CAS. A busy night as RF was down for repair; CAS (Frank and George) replaced the 3U buffer card first because the Voltage signal appeared to be the source of the problem since the signals pass through this to the MADC channels. Not a fix, the next thing was to open the Dynapower power supply, which requires LOTO to the Blue Mains. The 3-channel isolation amplifier board was replaced, supply closed up, LOTO removed and the Link reestablished, the p.s. output voltage looks good now on psall. Bi4-qf3-ps looked good at injection, MCR ramped to top energy. Don and I monitored the supply using Virtual Scope. Once at Store Energy, bi4-qf3-ps still looked good so Don handed the blue ring back over to MCR. Heppner	3-channel Isolation Amplifier Board			
2-Dec	MS-015	M	M	2b-ps1	Scheduled Maintenance: 1100 to 1400. Brought down the Blue Link by putting b2-q89 to Standby then to off. Placed Service building 1010A Yellow Supplies to off, LOTO applied to the Blue and Yellow Mains to prevent supplies from coming on as per George Ganetis. Continue work on the Yellow D6-D8 Yellow Sector 10 grounding problem. Heppner	Maintenance			
3-Dec	MS-016	I		2b-ps1	Warm-up Mode: Science is on hold until further notice as Sector 11 and 12 need to be warmed up and magnets cut open in the Yellow Ring for repairs. There will be more information as experts proceed to investigate. Brought down the Blue Link by putting b2-q89 to Standby then to off. Continued by putting all other Service Buildings to Standby then off for LOTO applied to Yellow. Heppner	Magnet Fail (OTHER)			
23-Dec	MS-017	I		8b-ps1	Blue quench link trip was caused by 8b-qd1 quench detector. The quench detector tripped because of a real magnet quench at B7QFQ3_VT. The beam permit tripped after the quench link. There was a real magnet quench at b7q3. There was a high beam loss at g7-lm3.1 for over 4 sec. Are the BLM thresholds correct? There is now 3 beam induced quench for this run. Ganetis [quench]	Beam Induced 003	b7q3	1	1
23-Dec	MS-018	I		4b-time.A	bo3-qf2-ps, Stby-Error, AC Power, Standby, Remote, Error signal, Quench	bo3-qf2-ps fault			
24-Dec	MS-019	I		4b-time.A	bo3-qf2-ps, Stby-Error, AC Power, Standby, Remote, Error signal, Quench	bo3-qf2-ps fault			
24-Dec	MS-020	I		4b-time.A	CAS swapped out power supply bo3-qf2-ps and the new one looks like it is working now at 1 amp. I am running Blue Quench Recovery and will bring p.s.'s to park, then I will hand the p.s.'s back to MCR. Don Bruno [blue [ps]	bo3-qf2-ps fault			
28-Dec	MS-021	I		12a-ps1.A	y12-dh0-ps had tripped to the OFF state during the ramp up. Nothing found as to the cause, reseating of all HKPS connections, removal of HKPS fuses whereas the spring clips where tightened - fuses placed back and vibration test performed once MCR had turned the unit back on. Could not repeat the fault. This supply has been known to trip on this cause and several actions had already taken place to resolve the issue (see power supply logs for details). Monitoring Equipment is now in the works for the next time if and when this supply should trip again. G. Heppner	y12-dh0-ps, unexplained at the moment			
28-Dec	MS-022	I		B & Y	18:07 Attempt to run hysteresis failed because prep failed because some FECs are excluded. We're ramping to zero to reset cfe-3b-ps1, then will recover and run a hysteresis ramp from there. TJS	cfe-3b-ps1 AC Reset (CNTL)			
29-Dec	MS-023	I		B & Y	01:27wfg 3b-ps1 got error: sever host not reachable, which cannot be reset. It prevents us to make any changes to RHIC. We need to bring the field down to 0 to do AC reset. VP, NickL, BrianB	cfe-3b-ps1 AC Reset (CNTL)			
29-Dec	MS-024	M		12a-ps1.A	Link brought down at y111-qd2-ps for work done on y12-dh0-ps. 1) Wire Harness for J412 replaced, 2) AC Line cord put in place to constantly supply 110vac to the HKPS, 3) Special Digital Isolation Card put in for exterior monitoring purposes. G. Heppner	Maintenance			
29-Dec	MS-025	I		4b-time.B	Carpenters accidentally pushed the Yellow Main Crash Button at 1004B while hanging sound absorption material near the main racks. Recovered Yellow Link and performed one Hysteresis Loop as per Don Bruno. G. Heppner	Crash Button for Yellow Mains			
30-Dec	MS-026	M	M	2b-ps1	I brought the links down by putting bi1-qd2-ps and y12-qd2-ps into the OFF state. Don Bruno Work Performed: 1. Replaced fan at 7 Dx magnet tree, 2. Swapped DC cables at y012-qgt-ps. We found that it was reversed according to the drawing, now it matches the drawing., 3. All re-booted quench detectors after doing some work on quench detectors., 4. All the sextupoles were re-trained since quench detectors were re-booted., 5. Current Regulator card swapped out for y110-qf9-ps.	Maintenance			
31-Dec	MS-027	I		10a-ps3.A	(Reference to MS-033 for Details)	Refer to MS-033			
31-Dec	MS-028	I		10a-ps3.A	(Reference to MS-033 for Details)	Refer to MS-033			
31-Dec	MS-029	I		2b-ps1	(Reference to MS-033 for Details)	Refer to MS-033			
31-Dec	MS-030	I		10a-ps3.A	(Reference to MS-033 for Details)	Refer to MS-033			
31-Dec	MS-031	I		10a-ps3.A	(Reference to MS-033 for Details)	Refer to MS-033			
31-Dec	MS-032	I		10a-ps3.A	(Reference to MS-033 for Details)	Refer to MS-033			

RHIC QLI Events for the month of December

31-Dec	MS-033		1	10a-ps3.A	The problem is associated with A1-J29. Fred connected a tee to A1-J29 and monitors with a voltmeter. We observed voltage vary from 2 to 4 volts when the A1-J29 chassis connector was wiggled. We removed the QPAIC-A1 from the rack (after Fred LOTO the Y-Main-Quad). I connected the 5-volt source to J30, verified the problem is still there. After the cover was open, found the wire connected to J29 was covered with shrinkable sleeve. When I gently pulled on the wire, it came off easily. Fred and I both inspected the solder connection and determined the connection was a cold solder joint. Fred re-soldered the connector. Wing Louie	Bad Solder Connection on a K-Lock Board Mount Connector			
Total Counts:		13	7					1	1

RHIC QLI Events for the month of January

RHIC Physics fy05 (2004-2005)

Date:	Reference ID	B	Y	QLI	Technical Notes	Analysis	Real Mag Quench Loc:	Beam Induced:	Magnets Quenched:
1-Jan	MS-034			8b-ps1	High level of beam in Sector 8 Triplet y8-lm2.1 = 46134.57 for over 1 second, y8-lm3.1 = 2734.45 and b8-lm2.1 = 45016.52, along with the analysis of QD Plot, confirms that Y8QFQ2_VT of the q2 magnet had indeed suffered a beam induced quench. G. Heppner	Beam Induce #004	y8q2	1	1
1-Jan	MS-035			8b-ps1	High level of beam in Sector 8 Triplet g8-lm1 = 2890.94, y8-lm2.1 = 46123.29 for over 1 second, y8-lm3.1 = 4580.99 and b8-lm2.1 = 44848.88, along with the analysis of QD Plot, confirms that Y8QFQ2_VT of the q2 magnet had indeed suffered a beam induced quench. G. Heppner	Beam Induce #005	y8q2	1	1
1-Jan	MS-036			8b-ps1	High level of beam in Sector 8 Triplet Y8-lm0 = 2645.95 g8-lm1 = 4123.62, y8-lm2.1 = 46123.29 for over 1 second, jn3.1 = 2652.42 and b8-lm2.1 = 45001.03, along with the analysis of QD Plot, confirms that Y8QFQ2_VT of the q2 magnet had indeed suffered a beam induced quench. G. Heppner	Beam Induce #006	y8q2	1	1
2-Jan	MS-037	1		3b-ps1	Refer to MS-043 and MS-044	Refer to MS-043 and MS-044			
2-Jan	MS-038		1	3b-ps1	Refer to MS-043 and MS-044	Refer to MS-043 and MS-044			
2-Jan	MS-039	QD	1	3b-ps1	Refer to MS-043 and MS-044	Refer to MS-043 and MS-044			
2-Jan	MS-040	1	QD	9b-ps1	Quench Detector cfe-9b-qd1 Reset, brought down blue and yellow links.	Quench Detector cfe Reset			
3-Jan	MS-041			8b-ps1	Yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped after the quench link. There was a real magnet quench at y8q2. There was a high beam loss at y8-lm2.1 for over 1.36 sec. Are the BLM thresholds correct? There is now 7 beam induced quenches for this run. There were no problems with any power supply prior to the quench. Ganets(jquench)	Beam Induce #007	y8q2	1	1
3-Jan	MS-042	1		3b-ps1	Refer to MS-043 and MS-044	Refer to MS-043 and MS-044			
4-Jan	MS-043			3b-ps1	Blue & Yellow quench link trips were caused by 3b-qd1 quench detector. The quench detector temperature compensation channel is not working. It looks like the channel has some kind of intermittent problem. This is the same problem that happened on Sunday. 1 short ring access will be required to change a quench detector card out. Ganets(jquench)	Details at MS-044			
4-Jan	MS-044	M	M	3b-ps1	Received a call from Wing Louie that he had been given permission to enter the ring to replace a Single Gain Mux Card in the 3b-qd1 quench detector. Dan Oldham had shutdown power to the rack, causing both links to drop. This is considered maintenance because MCR had other issues going on at the same time that allowed Wing to replace the card. G. Heppner	Maintenance: Single Gain Mux Card (Calibration Channel not working properly)			
6-Jan	MS-045	1		4b-time B	Blue quench link trip was caused by blue main dipole power supply. It had a Out Curr 2 Fault. This happened right at the ramp power module switched to the flatpot power module at the end of the ramp to top energy. Ganets Update: It appears that the Hardware Gain Switched from Ramp to Flatpot in the Voltage Feedback but the software Scaling Factor did not, resulting in an unstable voltage loop. Carl Schultheiss	BMD			
7-Jan	MS-046			10a-ps3.A	Jeff Wilke and Joe Drouz are swapping out y10-tq5-ps. This is not part of the main yellow link. MCR thought that the yellow main link needed to come down to do this work that is the reason for the yellow QLI at 11:40. Don Bruno	y10-tq5-ps Breaker tripped to OFF			
7-Jan	MS-047			8b-ps1	Recovering from MS-046 QLI, TAPE was halted. There is no evidence of a failure or as to why the recovery failed. Don called George and according to him, there is supposed to be a 15ms time interval between time stamps indicated between the Timing Resolver counts. This may indicate a possible loose connection in the K-lock string. Heppner	Possible loose connection in the K-lock String.			
7-Jan	MS-048			2b-ps1	Yellow quench link trip looks like it was caused by an intermittent cable or connection between the y2-q6 QPA to QPAIC. 1 quench switch to its control chassis. J. Ganets	Possible loose connection between QPA and QPAIC for y2-q6			
8-Jan	MS-049			5b-ps1	Looking at the 1004B Postmortem Data, The Yellow Main Quad indicated a sudden drop (spike) in the Iref signal of approximately 87 amps starting at T= 0.03889 for a time period lasting 0.004117 seconds. The Error Signal corresponds with a drop of 35volts in the same time frame. Comparing this to the RTDL Signals, Yellow Quad 1 Set shows a flat-line (pause) in the down ramp signal at T= -0.390278 until T= - 0.388889 equaling a time frame of .001389 seconds. Talking with Carl Schultheiss, this signal originates from Controls. This pause in the RTDL Signal is long enough to cause the Main Quad to glitch in the down ramp, causing the Quench Detector to trip! Heppner Yellow quench link trip was caused by 5b-qd1 quench detector. The quench detector tripped because of a main quad power supply current spike during the down ramp from injection to park. The current spike was caused by a glitch in the setpoint from the control system. CS	Controls Related, RTDL Signal Glitch to the Yellow Main Quad PS.			
10-Jan	MS-050	M	M	2b-ps1	In addition to maintenance allowed for the replacement of b2-tq6-qpa, the Blue Link was taken down to replace the Timing Resolver in 1002B (B1.R2BBQF3). The link was restored and upon testing of signals to the Timing Resolver verification process, a "Set All Bits to 0" was initiated to the 2b-qd1 Quench Detector under the careful watch of Wing Louie. In doing this, the DX Heaters were forced to trigger, firing all four DX Magnet heaters from the 1002B location causing the Blue Link to drop once again, File # = 1105372749. Timing Resolver Signals all appear to be working at this time, brought the link back up and handed over to MCR. G Heppner	Maintenance:			
Physics Program Declared Operational January 11, 2005 at 2100 Hours									
12-Jan	PR-001	M	M	8b-ps1	y17-qd2-ps put into the Off state to begin work on scheduled maintenance.	Maintenance			
12-Jan	PR-001	M	M	12a-ps1.A	Controls Group had turned off the power to the 720Hz chassis, scheduled maintenance.	Maintenance			
13-Jan	PR-002			8b-ps1	Yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y7QFQ3_VT. The beam permit tripped after the quench link. There were real magnet quenches at y7q3 and y7d0. There were high beam losses at y7-lm3.2, y7-lm3.3, y7-lm0, and g7-lm1 for over 076 sec. Are the BLM thresholds correct? There is now 8 beam induced quenches for this run. There were no problems with any power supply prior to the quench. Ganets In addition to the y7q3 and y7d0 magnet quenches, y17-tv2 also indicated a real magnet quench had occurred (high levels of radiation) q's Quenched in conjunction with the 8b-qd2 quench caused t Beam Induce that involved y7q3 and y7d0 due to warm gas travelling in the counter clockwise flow (Cryogenic Flow). Confirmed by Georg Ganets(jquench) Heppner	Beam Induce #008	y7q3, y7d0, y7-tv2, y7tq4, y7tq5, y7tq6	1	6
13-Jan	PR-003	1		8b-ps1	Blue quench link trip was caused by 8b-qd1 quench detector. The quench detector tripped because of magnetic coupling between the Y7D0 and R7D0 magnets. When the Y7D0 had a real quench it induced a voltage into the BSC magnet that the blue quench detector interprets as quench. Ganets	Magnetic Coupling in conjunction with Beam Induced Quench #008 (PR-002)			

RHIC QLI Events for the month of January

RHIC Physics fy05 (2004-2005)

14-Jan	PR-004	I		9b-ps1	Blue quench link trip was caused by 9b-qd1 quench detector. Nine other quench detectors tripped before the blue link tripped. B-qrim-ps lref went to max. current of 300 Amps. The power supply tried to follow. This is what caused the quench detectors to trip. There was no problem with the WFG signals to the "Toldo Box". If this occurs again replace the "Toldo Box" - Ganetsis	Toldo Interface Box suspected for b-qrim, 1004B.				
14-Jan	PR-005	I		10a-ps3.A	Blue quench link trip was caused by 10a-qd1 quench detector. The quench detector tripped due to a sudden increase in current on bo10-dhx-ps. The increase was .9 Amps in .05 sec. This can only be seen in the quench detector data, the MADC data is too noisy. - Ganetsis	b10-dhx-power supply glitch				
17-Jan	PR-006	I		4b-time.B	y-qmain-ps, Reg DCCT, Postmortem shows nothing unusual except for noisy read-backs on the mains. Carl pointed out and we looked at the Log View Cold Box for the Main Quad signal and it clearly showed a sudden drop in temperature of 4.5 Degrees Celsius. This quick change in temperature was the cause for the DCCT Regulator Error for the Main Quad Power Supply. Since the cause of this QLI was do to a faulty ODH Sensor that brought the buildings emergency exhaust fans on for awhile that quickly dropped the ambient temperature from 77.48 degrees down to the outside temperature of 36.13 degrees, this is charged to the Controls counter. G. Heppner Yellow link trip caused by a DCCT Reg. Fault on the Yellow Main Quad P.S. - Ganetsis	Building Temperature too cold due to a faulty ODH Alarm. (Y-qmain Cold Box Failed)				
17-Jan	PR-007	I		4b-time.B	b-qmain-ps, Reg DCCT, Postmortem shows nothing unusual. Carl pointed out and we looked at the Log View Cold Box for the Main Quad signal and it clearly showed a sudden drop in temperature of 4.5 Degrees Celsius. This quick change in temperature was the cause for the DCCT Regulator Error for the Main Quad Power Supply. Since the cause of this QLI was do to a faulty ODH Sensor that brought the buildings emergency exhaust fans on for awhile that quickly dropped the ambient temperature from 77.48 degrees down to the outside temperature of 36.13 degrees, this is charged to the Controls counter. G. Heppner Blue link trip caused by a DCCT Reg. Fault on the Blue Main Quad P.S. - Ganetsis	Building Temperature too cold due to a faulty ODH Alarm. (b-qmain Cold Box Failed)				
18-Jan	PR-008	I		7b-ps1	Postmortems show the Blue Quad Main Ramp Current oscillating about 1000 amps peak to peak. Log View Cold Box Temperature was still below 21 Degrees Celsius when the normal operating temperature is between 24 and 25 degrees Celsius. G. Heppner Blue quench link trip was caused by 7b-qd1 quench detector. One other quench detector tripped before the blue link tripped. The quench detectors tripped because the blue main quad p.s. went into oscillation during the ramp to top energy. It looks like this occurred when the main quad was switching from flattop to ramp power modules. This problem could have been in temperature this building had when there was a failure of an ODH sensor that caused the building fans to stay on. Ganetsis	Blue Quad Main Oscillations				
18-Jan	PR-009	I		4b-time.A	1) b4-dh0-ps, Sbtty-Error, AC Power, Standby, Remote, DC Overcurrent, Quench. 2) The b-dmain-ps indicated a Current Monitor Fault. 3) Postmortems indicate the voltage signal for b4-dh0-ps suddenly spikes down by 2.103v at 0.049 seconds. As it returns to normal, the signal shows instability, causing the supply to trip to standby. lref drops before T-zero. G. Heppner Blue quench link trip was caused by a b4-dh0-ps DC over-current fault. The p.s. current was not near the trip level so it looks like a p.s. controls problem. This problem could have been caused by the 40 F drop in temperature this building had when there was a failure of an ODH sensor that caused the building fans to stay on. Ganetsis	b4-dh0, Building Temperature too cold due to a faulty ODH Alarm.				
18-Jan	PR-010	I	QD	7b-ps1	At 11:09, the Physics Log reported Quench detection controls failure. They ramped both rings down to resolve the situation. Found most of the Yellow Quench Detectors in the fail state (PINK) except for 1b-qd1, 7b-qd1 & 10a-qd2 they were running. All of the Blue Main and Auxiliary Quench Detectors had been found in the fail state. A reset was required for all of these and that caused both links to go down. G. Heppner	Quench Detectors Related, Multiple FEC Failures				
18-Jan	PR-011	QD	I	1b-ps1	After the initial reset of all the quench detectors, 1b-qd1 for Blue and Yellow Main and Auxiliary Quench Detectors were still in the fail state so another reset was required, causing both links to drop. G. Heppner	Quench Detector FEC Reset				
19-Jan	PR-012	I		8b-ps1	Blue quench link trip was caused by 8b-qd1 quench detector. The quench detector tripped because of a real magnet quench at B7QFQ3_YT. The beam permit tripped .586 sec before the quench link. There were real magnet quenches at b7q3, b7q4, b7q1, b7d0 and b5q3. There were high beam losses at b7-im3,1, b7-im2,1, b7-im0, and g7-im1 which did not occur until approx. 0.5 sec after the beam permit tripped. Also y7-tq4, y7-tq5, y7-tq6, b5-dh3, bo7-q3, bo7-tv3, and bo7-dh2 quenched. There is now 9 beam induced quenches for this run. There were no problems with any power supply prior to the quench. Ganetsis Further investigation into the RHIC abort kicker situation that caused the blue quench at 0134. It turns out that a beam abort event had occurred before the ring was filled and ramped. The abort kickers do not recharge after a beam abort event occurs. In this case, the beam abort event occurred, and then presumably the ring was filled without a coggling reset being issued in RHIC Injection (which should have recharged the abort kickers.) Link This was also exacerbated by filling manually, so RhicInjection did not issue coggling resets that it normally does.	Beam Induce #009	b7q3, b7q2, b7q1, b7d0, b5q3, y7-tq4, y7-tq5, y7-tq6, b5-dh3, bo7-q3, bo7-tv3, and bo7-dh2	1	12	
19-Jan	PR-012	I		8b-ps1	This Quench Event occurred 0.206 seconds after the Blue 8b-ps1 Event (PR-012 previous page). See Georges analysis below for cause. G. Heppner Yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of magnetic coupling between the B7D0 and Y7D0 magnets. When the B7D0 had a real quench it induced a voltage into the YSD0 magnet that the yellow quench detector interprets as quench. Ganetsis	Magnetic Coupling in conjunction with Beam Induced Quench #009 (PR-012)				
19-Jan	PR-013	I		2b-ps1	Blue quench link trip was caused by 2b-qd1 quench detector. The quench detector tripped because of a problem with b2-q6-ps. The p.s. has large current spikes that cause the quench detector to trip. Ganetsis	b2-q6-ps producing large current spikes				
19-Jan	PR-014	I		4b-time.A	No indications of a power supply at fault, this fault occurred after a Hysteresis Loop was performed. G. Heppner Blue quench link trip was caused by a bad connection on a quench link interlock cable between the B1 QPAIC and A QPAIC in service bldg. 1004B. Ganetsis	Possible Loose K-Lock connection, replaced on Maintenance day 1-19-05				
19-Jan	PR-015	I		2b-ps1	Postmortems show large Current Spikes in consecutive time order indicated on b2-q6-ps with the largest up to 85 am. Other supplies mirror smaller spikes in the same time frame. Consulting with George, due to the large spike, it appears there may be possible coupling interference in the MADC signal cables going to the controls rack in the service building control room. Reference to PR-013. G. Heppner Blue quench link trip was caused by 2b-qd1 quench detector. The quench detector tripped because of a problem with b2-q6-ps. The p.s. has large current spikes that cause the quench detector to trip. Ganetsis	b2-q6-ps producing large current spikes				
19-Jan	PR-016	M	M	4b-time.A	RHIC ps Maintenance performed: 1. Replaced node card cable for y12-tv12. 2. Ran snakes up to 10A, except for one that has a fan fault. 3. Fixed the problem with 2 other snakes that would not come on. 4. Replaced y110-qd6 and y08-qd1 current regulator cards. 5. Fixed problem with 10A bypass box showing the wrong status. 6. Ran a new k-lock cable at 4b that may have been causing 4b-time A trips earlier this morning. Don Bruno	Maintenance Related				

RHIC QLI Events for the month of January

RHIC Physics fy05 (2004-2005)

					No indications of a power supply at fault, all are sitting at zero currents. MCR had seen a potential problem with b12-q9-ps during several of previous captured Snapramp Data Stores. Even though this supply did not trip and cause a QLI, confirmation that there is a problem with this supply, they called Don for assistance. G. Heppner b12-q9-ps was quite noisy at the top of the ramp. Since CAS was busy I decided to try and put the p.s. into the OFF state. I waited about 5 minutes. Then I recovered the blue link and did two hysteresis ramps. It looks much better. The ramps were done at 2:41 and 2:52 if anyone wants to take a look at b12-q9-ps. Tim Costanzo of CAS is set up with a new current regulator card if this problem comes back. The p.s.'s all have to be ramped to zero by MCR. Then call Tim. Tim will put b12-q9-ps into the OFF state and this will bring the blue link down. He will swap out the card and then hand it back to MCR. MCR can recover and ramp. If this still does not fix the problem then give me another call. Don	b12-q9-ps, possible firing circuits.				
20-Jan	PR-017	I	12a-ps1.A		Yellow quench link trip was caused by 10a-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y6QF06_4VT. The beam permit tripped .120 sec. before the quench link. There was a real magnet quench at y9q4. There was a high beam loss at y9-lm4 after the permit trip. There is now 10 beam induced quenches for this run. There were no problems with any power supply prior to the quench. Ganets	Beam Induce #010	y9q4	1	1	
21-Jan	PR-018	I	10a-ps3.A		Yellow quench link trip was caused by 8b-qd2 quench detector. The quench detector tripped because of a real magnet quench at Y7QF03_VT. The beam permit tripped after the quench link. There were real magnet quenches at y6q3, y7q3 and y8q3. Also y08-th2 and y6-th3 also quenched after the main magnets do to warm gas. There were high beam losses at these magnet location before the beam permit tripped. There were no problems with any power supply prior to the quench. The blue ring also had real magnet quenches due to beam loss. There is now 11 beam induced quenches for this run. Ganets	Beam Induce #011	y6q3, y7q3, y8q3, y08-th2, y6-th3			5
21-Jan	PR-019	B	12a-ps1.A		Blue quench link trip was caused by 12a-qd1 quench detector. The quench detector tripped because of a real magnet quench at B11QF02_VT. The beam permit tripped after the quench link. There were real magnet quenches at b10d20 and b11q2. Also b010-th20 and b011-th2 also quenched after the main magnets do to warm gas. There were high beam losses at these magnet location before the beam permit tripped. There were no problems with any power supply prior to the quench. The yellow ring also had real magnet quenches due to beam loss. There is now 11 beam induced quenches for this run. Ganets	Beam Induce #011	b10d20, b11q2, b010-th20, b011-th2	1		4
21-Jan	PR-020	I	10a-ps3.A		Link failed after recovering from previous quench (PR-019). Replaced two fan switches for y110-q89-aga. Tested and returned operations back over to MCR. G. Heppner	QPA Fan Fault				
23-Jan	PR-021	I	4b-time.B		MCR reported a power dip had occurred. I checked the 208vac Phase Monitors and saw that all the buildings suffer a line loss of 8 cycles, dropping to 230vac. This caused the mains to trip because there is no UPS system used on the main 480vac lines. G. Heppner	Power Dip				
23-Jan	PR-021	P	4b-time.B		MCR reported a power dip had occurred. I checked the 208vac Phase Monitors and saw that all the buildings suffer a line loss of 8 cycles, dropping to 230vac. This caused the mains to trip because there is no UPS system used on the main 480vac lines. G. Heppner	Power Dip				
23-Jan	PR-022	I	4b-time.B		Postmortems show no power supplies faults, all at zero currents. However, User Invoked had been initiated when recovering from the power dip (PR-021) because the Blue Main Dipole would not run up to Park Current, Regulator Off fault for the b-dmain. TAPE was reinitiated to bring up the Blue Link. G. Heppner	BMD Current Reg Error (TAPE Controls Network)				
23-Jan	PR-023	I	4b-time.A		y13-qd2-ps, Sisy-Error, AC Power, Standby, Remote, DC Overcurrent, Quench, FET, AC Phase. Found nothing wrong. MCR reset and the supply has been running since. G. Heppner	y13-qd2-ps Multiple Faults				
24-Jan	PR-024	I	4b-time.A		Power Supply y13-qd2 was replaced during Experimenter down time. Notice, Heavy snow conditions from the weekend storm caused Technicians to delay replacement due to improper clearance into the building. G. Heppner	y13-qd2-ps Multiple Faults				
24-Jan	PR-025	I	12a-ps1.A		This QLI was my fault. I used wfgman to do a here2zero from injection, which doesn't default to the right Slowfactor. JP1	Operator Error				
25-Jan	PR-026	P	4b-time.A		ps2 "Lights blinked, RHIC went down." Major Power Dip, 208vac Service Building Phase Monitors indicate a line loss of 3 cycles, dropping to 157vac before recovering. This caused multiple systems to go down including the mains to trip because there is no UPS system used on the main 480vac lines. G. Heppner	Power Dip				
25-Jan	PR-026	I	4b-time.B		ps2 "Lights blinked, RHIC went down." Major Power Dip, 208vac Service Building Phase Monitors indicate a line loss of 3 cycles, dropping to 157vac before recovering. This caused multiple systems to go down including the mains to trip because there is no UPS system used on the main 480vac lines. G. Heppner	Power Dip				
25-Jan	PR-027	I	4b-time.A		Wfg tried to ramp the supply in the negative direction. This supply cannot ramp negative and therefore with no change in current, the supply tripped on error signal. It turns out Al Marusic set in a negative ramp value. G. Heppner	wfg Software Change (Controls Related)				
25-Jan	PR-028	I	4b-time.A		Again, the wfg tried to ramp the supply in the negative direction. This supply cannot ramp negative and therefore with no change in current, the supply tripped on error signal. MCR is going to change ramp settings. G. Heppner The wfg manager had not been updated with the reverted ramp, because we had not activated -- hence the wfg manager still had bad setpoints in it during quench recovery's 'here2first' step. We activated the good (reverted) ramp at zero, and ops are recovering again. JIS, JP1	wfg Software Change (Controls Related)				
27-Jan	PR-029	I	10a-ps3.A		Postmortems show no problem with b09-qd6 prior to T=zero. However, the signals don't seem to return to zero base line after the trip. Qdplots show the 4-20mA signal failing to the Negative Rail and staying there. G. Heppner	Reference to PR-032				
27-Jan	PR-030	I	10a-ps3.A		Postmortems show Iref = 30.08, Current = 20.50 amps, Voltage = 462.50mV and Error = 708.86mV. Checking Pet page for the actual power supply, the signals appear to match but this can't be because the supply is in the Standby / Error state. Quench Detection Signal indicates a -401 Amps. Qdplots show the 4-20mA signal has never recovered from the Negative Rail. It also appears as seen below that MCR had no luck with the Link Recovery. This is because the 10-qd1 Quench Detector would not clear. G. Heppner	Reference to PR-032				
27-Jan	PR-031	I	10a-ps3.A		Postmortems show Iref = 30.08, Current = 20.50 amps, Voltage = 462.50mV and Error = 708.86mV. Quench Detection Signal still indicates a -401 Amps. Qdplots show the 4-20mA signal still has not recovered from the Negative Rail. The Main Power Supplies unable to turn on, the Link would not recover because the 10-qd1 Quench Detector still did not clear. G. Heppner	Reference to PR-032				
27-Jan	PR-032	I	10a-ps3.A		Postmortems show Iref = 30.08, Current = 20.50 amps, Voltage = 462.50mV and Error = 708.86mV. Quench Detection Signal still indicates a -401 Amps. Qdplots show the 4-20mA signal still has not recovered from the Negative Rail. The Main Power Supplies unable to turn on, the Link would not recover because the 10-qd1 Quench Detector still did not clear. The Buffer Card was exchanged because the -15vdc V2 light was not lit on the front of the card. Signals seen as described above are a good indication of this problem. G. Heppner	Buffer Card				

RHIC QLI Events for the month of January

RHIC Physics fy05 (2004-2005)

27-Jan	PR-033	1	8b-ps1	At 15:28:00 Cryo reported that the DX magnet in 8 o'clock quenched, and they are waiting for temperatures to stabilize. There was no indication of a DX Magnet quench that I could see. There was no indication of a power supply at fault prior to the quench. A blue quench link trip was caused by the 8b-ql1-quench detector. The quench detector tripped because of a real magnet quench at B5QFQ2_VT. The beam permit tripped .009 sec. before the quench link. There was a real magnet quench at b8q2. There was high beam loss at b8-lm2.1 and b8-lm3.2. There are now 12 beam induced quenches for this run. G Heppner	Beam Induced Quench #012	b8q2	1	1
28-Jan	PR-034	1	6b-ps1	There was no indication of a power supply at fault prior to the quench. A blue quench link trip was caused by the 6b-ql1-quench detector. The quench detector tripped because of a real magnet quench at B5QFQ2_VT. The beam permit tripped .019 sec. before the quench link. There was a real magnet quench at b5q2. There was high beam loss at b5-lm2.1. There are now 13 beam induced quenches for this run. G Heppner	Beam Induced Quench #013	b5q2	1	1
28-Jan	PR-035	1	6b-ps1	This blue qli was caused by b6-dh0-ps or b6-dh0-qps. The timing resolver picked this p.s. qps combination out. We will check the p.s. and qps signal cables during the next maintenance day because there were no faults that showed up on either one. This problem could be due to one of these cables being loose or a bad connection. It happened after TAP6 tried turning on the p.s.'s. I don't think this problem is due to loose resistors on the soft start circuit because an error fault would show up. The other reason I don't believe it is those resistors is that we soldered all of those resistors so none are loose now. We will check these resistors anyway during the next maintenance day. If the problem returns tonight just call me back and I will have CAS look at it. Don Bruno	b6-dh0-ps to QPA Cable?			
28-Jan	PR-036	1	10b-ps3A	There was no indication of a power supply at fault prior to the quench. A blue quench link trip was caused by the 10b-ql1-quench detector. The quench detector tripped because of a real magnet quench at B10QFQ4_6VT. The beam permit tripped .066 sec. before the quench link. There was a real magnet quench at b10q4. There was high beam loss at b10-lm4. There are now 14 beam induced quenches for this run. G Heppner	Beam Induced Quench #014	b10q4	1	1
28-Jan	PR-037	1	2b-ps1	It looks like b2-q6-ps caused this blue QLI. We thought we fixed this supply the last maintenance day but the problem has returned. I asked MCR to put the p.s. into the OFF state for 5 minutes and try a ramp and we will see how it looks on the Snaretrap. If that does not fix it we will have to probably swap a card out. Don Bruno	b2-q6-ps producing large current spikes			
28-Jan	PR-038	1	2b-ps1	We are going to work on b2-q6, it brought the link down again. We must lock out the blue quad mains first. It seems like some data is missing from the Postmortem for b2-q6 on this trip. Don Bruno We replaced the 3-channel isolation amplifier board for b2-q6-ps. The hysteresis ramp now looks good for b2-q6-ps. Don Bruno & Gregg Heppner	b2-q6-ps 3-channel Iso Board Swapped			
29-Jan	PR-039	1	8b-ps1	There were no problems with any power supply prior to the quench. A yellow quench link trip was caused by the 8b-ql2-quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped .071 sec. before the quench link. There was a real magnet quench at y8q2. There was high beam loss at y8-lm2.1. There are now 15 beam induced quenches for this run. G Heppner	Beam Induced Quench #015	y8q2	1	1
29-Jan	PR-040	1	8b-ps1	There was no indication of a power supply at fault prior to the quench. A yellow quench link trip was caused by the 8b-ql2-quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped .057 sec. before the quench link. There was a real magnet quench at y8q2. There was high beam loss at y8-lm2.1. There are now 16 beam induced quenches for this run. G Heppner	Beam Induced Quench #016	y8q2	1	1
29-Jan	PR-041	1	8b-ps1	There was no indication of a power supply at fault prior to the quench. A yellow quench link trip was caused by the 8b-ql2-quench detector. The quench detector tripped because of a real magnet quench at Y8QFQ2_VT. The beam permit tripped .050 sec. before the quench link. There was a real magnet quench at y8q2. There was high beam loss at y8-lm2.1. There are now 17 beam induced quenches for this run. G Heppner	Beam Induced Quench #017	y8q2	1	1
Total Counts:		30	25				14	30

RHIC QLI Events for the month of February

RHIC Physics fy05 (2004-2005)

Date:	Reference ID	B	Y	QLI	Technical Notes	Analysis	Real Mag Quench Loc:	Beam Induced:	Magnets Quenched:
1-Feb	PR-042	I		Power Dip	A major power dip had occurred around 4:15 A.M. (see details described below). At the time of this writing, I have no idea as to why Data was not stored to the Pet and Postmortem Pages. Qdplots did store data and the machine was running at Top Energy at the time of the Power Dip. G Heppner	Power Dip			
1-Feb	PR-042		P	Power Dip	A major power dip had occurred around 4:15 A.M. (see details described below). At the time of this writing, I have no idea as to why Data was not stored to the Pet and Postmortem Pages. Qdplots did store data and the machine was running at Top Energy at the time of the Power Dip. G Heppner	Power Dip			
1-Feb	PR-043	M	M	6b-ps1	Due to the power dip that occurred earlier this morning, we expect to be down for about 8 hours from now. To minimize time lost, we have decided to re-schedule tomorrow's Maintenance Day for TODAY, starting immediately. This means there will be NO Maintenance Day tomorrow. A re-scheduling of the Beam Experiments is currently being discussed. I'll keep you informed. Christoph	Maintenance			
1-Feb	PR-044	I		1b-ps1	There was no indication of a power supply at fault prior to the quench. The Yellow Quench link trip was caused by the 1b-qd1-quench detector. The quench detector tripped because of a real magnet quench at B4QFA6_A7VT. The beam permit tripped after the quench link. There was one real magnet quench in the y01 Arc Quad. There was high beam loss at g1-lm20, g1-lm19, g1-lm18, g1-lm17 and g1-lm16. There are now 18 beam induced quenches for this run. G Heppner	Beam Induced Quench #018	y01-Arc Quad	1	1
1-Feb	PR-044	B		5b-ps1	There was no indication of a power supply at fault prior to the quench. The Blue Quench link trip was caused by the 5b-qd1-quench detector. The quench detector tripped because of a real magnet quench at B4QFA6_A7VT. The beam permit tripped .273 seconds prior to the quench link. There was one real magnet quench in the b04 Arc Quad Region. There was high beam loss at g4-lm13, g4-lm14 and g4-lm15. There are now 18 beam induced quenches for this run. G Heppner	Beam Induced Quench #018	b04-Arc Quad	Ref to #018	1
2-Feb	PR-045	I		2b-ps1	Postmortem shows large current spikes on b2-q6-ps at 2.6 amps while ramping up prior to T=zero causing the 2b-qd1 quench detector to trip. MCR Cycled the supply to off for a few minutes and then retried. G Heppner	b2-q6-ps Fault			
2-Feb	PR-046	I		2b-ps1	Postmortem shows large current spikes on b2-q6-ps at 3.3 amps while ramping up prior to T=zero causing the 2b-qd1 quench detector to trip. CAS replaced the Voltage Regulator Card, a re-attempt was not successful. G Heppner	b2-q6-ps Fault			
2-Feb	PR-047	I		2b-ps1	Postmortem shows large current spikes on b2-q6-ps at 2.54 amps while ramping up prior to T=zero causing the 2b-qd1 quench detector to trip. CAS replaced the Firing Card, a re-attempt was not successful. G Heppner	b2-q6-ps Fault			
2-Feb	PR-048	I		2b-ps1	Postmortem shows large current spikes on b2-q6-ps at 5.4 amps while ramping up prior to T=zero causing the 2b-qd1 quench detector to trip. We replaced the ZFCT Card and recalibrated, a re-attempt was not successful. G Heppner	b2-q6-ps Fault			
2-Feb	PR-049	I		2b-ps1	After replacing the ZFCT Card and running a Hysteresis Ramp, Postmortem shows large current spikes and Voltage changes on b2-q6-ps at 30.5 amps while ramping up prior to T=zero causing the 2b-qd1 quench detector to trip. It was decided to replace the entire supply. G Heppner	b2-q6-ps Fault			
2-Feb	PR-050	I		11b-ps1	There was no indication of a power supply at fault prior to the quench. The Blue Quench link trip was caused by the 11b-qd1-quench detector. The quench detector tripped because of a real magnet quench at B10DSA4_A3VT. The beam permit tripped .044 sec. before the quench link. There were two real magnet quenches at b10q4 and the b10 arc dipole. There was high beam loss at g10-lm5, g10-lm6, g10-lm7, g10-lm8, g10-lm10, g10-lm16, g10-lm20. There are now 19 beam induced quenches for this run. G Heppner	Beam Induced Quench #019	b10q4, b10-Arc Dipole	1	2
2-Feb	PR-051	I		7b-ps1	At first, no data appeared anywhere except on Qdplots. Cause for the trip was the use of the wrong Slowfactor when ramping Yellow down. G Heppner	Wrong SlowFactor (Ops Error)			
7-Feb	PR-052	I		5b-ps1	This yellow quench link trip was caused by the 5b-qd1 quench detector. The quench detector tripped because of a real magnet quench between arc magnets D16 through D20. The beam permit tripped 0.95 seconds before the quench link. There were high beam losses at g5-lm16, g5-lm17, g5-lm18, g5-lm19, and g5-lm20 for over 0.3 sec. The qdRealQuench pet page did not show this as a real quench because this pet page is not as reliable at low current operation. There are now 20 beam induced quenches for this run. There were no problems with any power supply prior to the quench. Don Bruno	Beam Induced Quench #020	b5-Arc Dipole	1	1
7-Feb	PR-053	I		8b-ps1	This yellow quench link trip was caused by the y111-sxd-ps tripping. This sextupole p.s. tripped because the maximum ramp rate of 0.2A/s was exceeded. It was ramped at about 0.7A/s. The sextupole p.s. tripped about 11 seconds before the yellow qli occurred. Once the sextupole p.s. trips it takes about 17 seconds for the current to decay down to zero. It was the 8b-qd2 quench detector that tripped the yellow quench link. The quench detector tripped because of a real magnet quench at Y7Q2. The quench link tripped 1us before the permit. There was high beam loss (5000 rad/hr) at y7-lm3,2 for over 4 seconds before the trip. Is the threshold for this beam loss monitor set correctly? There are now 21 beam induced quenches for this run. Don Bruno [quench]	Beam Induced Quench #021	y7q2	1	1
8-Feb	PR-054	I		12a-ps1	There was no indication of a power supply at fault prior to the quench. The 12a-qd1-quench detector caused blue Quench link to trip. The quench detector tripped because of a real magnet quench at B11QFQ2_VT. The beam permit tripped .039 sec. before the quench link. There were two real magnet quenches: b11q2 and b011-th2. There was high beam loss at g11-lm1 and b11-lm0. There are now 22 beam induced quenches for this run. G Heppner	Beam Induced Quench #022	b11-qd2, b011-th2	1	2
9-Feb	PR-055	I		12a-ps1	There was no indication of a power supply at fault prior to the quench. The Blue Quench Link dropped due to a QPA Fan Fault for b12-q7-qa. The beam permit tripped 20 u sec. after the quench link. This QPA houses Prototyp switches that are of the sealed tight type. (Note: Larger fan paddles had been specially made because the switch required a greater surface area in order to close, possible air flutter?) Tech Team found nothing wrong as they hooked up a QPA Tester and everything cleared as should. Testing of the connections showed no loose crimps so they re-positioned the switch so the paddle would catch more air flow. G Heppner	b12-q7-qa (Fan Fault)			

RHIC QLI Events for the month of February

RHIC Physics fy05 (2004-2005)

11-Feb	PR-056	I	2b-ps1	The blue quench link tripped due to the 2b-qd1 quench detector. The quench detector tripped because of the signal in B2/1DX_DX. There was a Real Magnet quench at B1DRDX. Alarm Log indicated that the Brahms D3 Magnet had tripped on a Security Trip, AC Fault and Component Fault at 08:53:15. Log View indicates that the supply ramped up at turn on causing a voltage induced into the b2dx. This D3 magnet is next to the b2dx magnet. George Ganetis had confirmed this type of fault during the last run. G Heppner	Voltage Induced into the Dx Magnet due to sudden current at turn on of the Brahms D3 Magnet.	B1DRDX.		1
13-Feb	PR-057	I	10a-ps3.A	Blue quench link trip was caused by 10a-qd1 quench detector. The quench detector tripped because of a real magnet quench at B10QFQ4_6VT. The beam permit tripped .143 sec before the quench link. There were real magnet quenches at b10q4 and b11q2. There was a high beam loss at g7-lm1 and a moderate loss at g11-lm1. There were no problems with any power supply prior to the quench. There is now 23 beam induced quench for this run. -Ganetis [quench]	Beam Induced Quench #023	b10q4, b11q2	1	2
14-Feb	PR-058	I	4b-time.B	There was nothing found wrong with the power supplies. It was believed that the Replacement Team had turned off the Yellow Main Dipole Flattop power supply in order to swap out the y04-tq4-qa that had been tripping multiple times. The procedure for working on the Tq supplies does not require taking down the Main Link since they are independent of the Main Link. After further Analysis, CAS said they did not turn off the mains, so it may well be a problem with the Main Yellow Dipole Regulator as this supply was sitting at zero current from 03:59 and this was the only fault listed after the quench event occurred. (Regulator DCCT). G Heppner	Undetermined, future testing required. Possible DCCT Regulator for the Yellow Main Dipole P.S.			
14-Feb	PR-059	I	8b-ps1	There was no indication of a power supply at fault prior to the quench. The Blue Quench Link trip was due to the 8b-qd1-quench detector. The quench detector tripped because of real magnet quenches at B7QFQ3_VT, B7QFQ2_VT and B7DRD0-D0. The beam permit tripped .049 sec. before the quench link. There where three real magnet quenches: b7q3, b7q2 and b7d0. There were high beam loss at b7-lm3.1, b7-lm2.1, g7-lm1 and b7-lm0. There are now 24 beam induced quenches for this run. G Heppner	Beam Induced Quench #024	b7q3, b7q2, b7d0	1	3
14-Feb	PR-060	I	8b-ps1	Correction: Initially I called this a Beam Induced quench but after further review from the re-play booth (Consulting with George Ganetis) it was determined that the call on the field be reversed. The Yellow Quench Link trip was due to the 8b-qd2-quench detector. The quench detector tripped because of magnetic coupling between the b7d0 and the y7d0 that induced a voltage into the y7d0 quench detection signal. Radiation levels in this area had been high, the reason for the Blue Beam Induced Quench Event. There was no indication of power supplies at fault prior to the quench. The beam permit tripped .589 sec. before the quench link. Therefore, there was not a real magnet quench at y7d0 and the Beam Induced Quenches remains at 24 for now. -G. Heppner [hic] [quench]	Magnetic Coupling			
16-Feb	PR-061	M	M	4b-time.B	Scheduled Maintenance, Crash buttong pushed at 1004B, Mains at zero currents.	Scheduled Maintenance		
16-Feb	PR-061	M	M	4b-time.B	Scheduled Maintenance, Crash buttong pushed at 1004B, Mains at zero currents.	Scheduled Maintenance		
17-Feb	PR-062	I	2b-ps1	Started Wednesday, February 16 at 23:48: y2-dh0 took off ~8 amps from setpoint, then snapped back to normal. After the beam dumped, of course. -gjm, CEN 23:55 , that's a new (to my memory at least) failure mode that should warrant a call to Don.... -Fulvia February 17, at 00:03: We're way ahead of you. Ramping to zero so CAS can swap back a fiber optic card. -gjm 23:57 : Dumping Beam and ramping down. 00:16 : Dropped link by putting y2-dh0 in standby, so that CAS could make the repair. -gjm 00:40 : After recovering the link y2-dh0 is repeating its wayward drift at injection. Don asks for a hysteresis ramp. -gjm	y2-dh0-ps Current drift			
17-Feb	PR-063	I	2b-ps1	1) Y2-dh0 setpoint drifted causing beam abort. 2) We had swapped the fiber optic interface card out during maintenance because of this problem in the past. 3) I had CAS put the original fiber optic interface card back in. The problem was still there. 4) I had CAS swap out the current regulator card and housekeeping p.s. 5) I also had CAS remove and reset all the connections on the 3u control chassis backplane. 6) After CAS was done MCR tried bringing the yellow link up but it would not come up because one of the housekeeping p.s. connectors was not on correctly so CAS had to go back out to fix it. 7) In trying to recover the yellow link a new problem developed. Y2-q6-ps quench fault would not reset. 8) I had CAS go back out to 1002B and reset two D connectors on the qa y2-q6-up, one D connector on the p.s. y2-q6-ps and also pull the 120vac cord qpa to y2-q6-up and plug it back in. 9) The yellow links now came up. 10) MCR did a hysteresis ramp and y2-dh0-ps setpoint looked much better.	y2-dh0-ps Current drift			
17-Feb	PR-064	I	8b-ps1	There was no indication of a power supply at fault prior to the quench. The yellow quench link tripped due to the 8b-qd2-quench detector. The quench detector tripped because of a real magnet quench at Y7QFQ2_VT. The beam permit tripped 0.119 seconds before the quench link. There was one real magnet quench at y7q2. There was high beam loss seen at y7-lm3.2 and y7-lm2.1. There are now 25 beam induced quenches for this run. G Heppner	Beam Induced Quench #025	y7q2	1	1
22-Feb	PR-065	I	12a-ps1.A	Tripped to the off state: b12-q7-ps, Off, AC Power, Remote, Postmortems verify that b12-q7-ps tripped 0.0152 seconds prior to T=zero. G Heppner <i>Field Report</i> : Don Bruno and crew to investigate, b12-q7-ps tripped to the OFF state causing this blue QLI. I asked MCR to bring the blue link up and see if it happens again. -Don Bruno [blue] [ps]	b12-q7-ps tripped to the off state (reference to PR-066)			
22-Feb	PR-066	I	12a-ps1.A	Tripped to the off state: b12-q7-ps, Off, AC Power, Remote, Postmortems verify that b12-q7-ps tripped 0.0125 seconds prior to T=zero. G Heppner <i>Field Report</i> : b12-q7-ps tripped to the OFF state again causing this blue QLI. We went out to the p.s. and swapped out the control card and digital isolation card. We also resealed the connectors on the housekeeping p.s. and control chassis that may have caused the OFF trip. We also re-soldered a wire that brings the ON status to the control chassis. We also resealed one of the fuses on the housekeeping p.s. that was not fully inserted. -Don Bruno	b12-q7-ps tripped to the off state			
23-Feb	PR-067	I	6b-ps1	Incredible voltage drops on the phases seen for 1004B 208vac monitors. Carl tells me this is because the mains use a lot of power when ramping and that the 208vac comes from the same 480vac substation. I didn't see an indication of a power supply at fault prior to the quench. Postmortems showed multiple Quad Power supplies Current and voltage changes while Tref and Wig's continued to ramp. The Blue Quench Link trip was due to the 6b-qd1-quench detector. The quench detector tripped because of the sudden change in the signal at B5QFQ2_VT. The beam permit tripped 2u-sec. before the quench link. -G. Heppner [blue] [quench] 20:22: There was a problem with b15-qd2-ps that caused the quench detector to trip. -Ganetis	b15-qd2-ps (unknown the time of this writing)			

RHIC QLI Events for the month of February

RHIC Physics fy05 (2004-2005)

23-Feb	PR-068	1	10a-ps3.A	I did not see an indication of a power supply at fault prior to the quench. Postmortems also showed multiple Quad Power supplies Current and voltage changes while Iref and Wfg's continued to function normally as did per the previous blue quench event. The Yellow Quench Link trip was due to the 10a-qd2-quench detector. The quench detector tripped because of the sudden change in the signal at Y10QDQ9_VT. -G. Heppner [yellow] [quench] 20:24. There was a problem with y110-q89-ps that caused the quench detector to trip. -Ganetis	y110-q89-ps			
23-Feb	PR-069	1	10a-ps3.A	This Yellow quench event occurred because the y110-q89-ps Current stopped at ~215 amps while Iref and Wfg's continue to ramp the supply down. When this occurred, Error took off past the 5 volt threshold for more then 4 seconds, tripping the supply on error fault. -G. Heppner [yellow] [quench]	y110-q89-ps			
Total Counts:		15	11				8	15

RHIC QLI Events for the month of March

RHIC Physics fy05 (2004-2005)

Date:	Reference ID	B	Y	QLI	Technical Notes	Analysis	Real Mag Quench Loc:	Beam Induced:	Magnets Quenched:
1-Mar	PR-070	I		8b-ps1	Postmortems show b07-qd1, b07-qf2 and b07-qd3 reacting to the laws of a magnet quench. (Voltage / Current Curve all before T=zero). Analysis shows that there was no indication of a power supply at fault prior to this quench event. The blue quench link tripped due to quench detector 8b-qd1 whereas a real magnet quench occurred at B7QFQ2_VT. The beam permit tripped 0.079 seconds before the quench link. Beam Losses were high at the Sector 7 Triplet Region, b7-lm3.1 and b7-lm2.1. There was one real magnet quench at b7q2. There are now 26 beam induced quenches for this Fy05 run. G Heppner	Beam Induced Quench #026	b7q2	1	1
2-Mar	PR-071	M	M	4b-time.B	<u>Maintenance</u> 1. Swapped out y110-q89-ps. 2. Swapped 3 channel isolation amplifier boards of b02-qd1 and b1-qf1. 3. Swapped 3 channel isolation amplifier boards of b02-qf8 and b1-qf9. 4. Connected Dranetz AC power line meter in 1004B. 5. Ran all snakes and rotators up to maximum current. 6. Dc tree heaters wired into ac terminal block. 7. Successfully tested Cu10 ramp. 8. IBS ramp tested but some problems still need to be investigated. 9. Swapped out b15-q5-ps. -Don Bruno [rhic] [ps]	Scheduled Maintenance			
6-Mar	PR-072	I		10a-ps3.A	Analysis shows that there was no indication of a power supply at fault prior to this quench event. All Postmortems for sector 9 and 10 show signal responses normal even after T=zero. The blue quench link tripped due to quench detector 10a-qd1 whereas the signal for B9DRDR_GL was the cause. The beam permit tripped 1 u-sec after the quench link. G Heppner	Gas Cooled Lead pulled Quench Detector / Cryogenic Related			
6-Mar	PR-073	I		3b-ps1	I did not see any problems within the supplies. Noticing the Time Stamp for when the Quench Event had taken place and comparing it to when TAPE was initiated for recovery, TAPE was started first. Next step is to look at the TAPE Message Logs and sure enough, the Blue Link was already up when someone had initiated a TAPE start. Isn't TAPE supposed to stop if a good condition (Link Up) already exist? G Heppner	TAPE was initiated to Run when the Blue Link was already up. (Ops Error)			
6-Mar	PR-074	I		7b-ps1	Analysis shows that there was no indication of a power supply at fault prior to this quench event. The blue quench link tripped due to quench detector 7b-qd1 whereas the signal for B6DSA4_A3VT was the cause. The beam permit had already been down, sector 10 Blue Dumps indicated no beam in the machine at the time of this event. The Physics Logs indicate they were using a different type of ramp other than Cu8. George had requested they use a slower slow factor when attempting this (Cu103) ramp. G Heppner	Unusual Ramp other then Cu8 assigned for Cu-Cu Fy05 Run			
6-Mar	PR-075	I		7b-ps1	This is the second time analysis show that there was no indication of a power supply at fault prior to this quench event. The blue quench link tripped due to quench detector 7b-qd1 whereas the signal for B6DSA4_A3VT was the cause. The beam permit tripped 1 u-sec after the Blue Link. The Physics Logs indicate they were using a different type of ramp other than Cu8. George had requested they use a slower slow factor when attempting this (Cu103) ramp. G Heppner	Unusual Ramp other then Cu8 assigned for Cu-Cu Fy05 Run			
7-Mar	PR-076		I	9b-ps1	I did not see any indications that a power supply had caused this quench event. The yellow quench link tripped due to quench detector 9b-qd1 whereas a real magnet quench occurred at Y8QFA3_A2VT. The beam permit tripped 2 u-sec after the quench link. Beam Losses were high in sector 8 at g8-lm10. Plots indicated that there was a real magnet quench in the y08 arc magnet, sector 8 Quad Focus magnet string Q10 thru Q20. There are now 27 beam induced quenches for this Fy05 run. G Heppner	Beam Induced Quench #027	y8-Arc Quad	1	1
8-Mar	PR-077	I		2b-ps1	A Major Power Dip caused multiple systems to go down. The Main Links dropped including the following Tunnel Alcoves: 1A thru 5B and 11C. Alcoves 5C thru 11B remained on. While running TAPE to recover the Sextupoles, b11-sxd required a second attempt before coming back on. There were no faults indicated as to why this required a second TAPE run. QD plots indicated that there was one Real Magnet quench at b2dhX. G Heppner	Power Dip			
8-Mar	PR-077		PD	4b-time.B	A Major Power Dip caused multiple systems to go down. The Main Links dropped including the following Tunnel Alcoves: 1A thru 5B and 11C. Alcoves 5C thru 11B remained on. While running TAPE to recover the Sextupoles, b11-sxd required a second attempt before coming back on. There were no faults indicated as to why this required a second TAPE run. QD plots indicated that there was one Real Magnet quench at b2dhX. G Heppner	Power Dip			
8-Mar	PR-078	PD		12a-ps1.A	Another Power Dip occurred when I was recovering the Links, causing both to trip once again. This time, the Alcoves had survived. Weather conditions had decreased from earlier in the day from a warm rain that switched over to snow as the temperature dropped and later into ice with heavy wind condition. Recovered and restored all RHIC Power Supplies from the previous power dips. Completed one Hysteresis Cycle and handed back over to MCR. G Heppner	Power Dip			
8-Mar	PR-078		I	2b-ps1	Another Power Dip occurred when I was recovering the Links, causing both to trip once again. This time, the Alcoves had survived. Weather conditions had decreased from earlier in the day from a warm rain that switched over to snow as the temperature dropped and later into ice with heavy wind condition. Recovered and restored all RHIC Power Supplies from the previous power dips. Completed one Hysteresis Cycle and handed back over to MCR. G Heppner	Power Dip			
10-Mar	PR-079	I	Y	3b-ps1	Quench Summary Page indicated that the 3b-ps1 was down for both the Blue and Yellow Ring (in the pink). Physics Log reports that they performed an AC reset for cfe-3c-ps1. FitReader on the other hand indicates that cfe-3b-ps1 was AC reset. Both Rings had been brought down to zero currents before this event had taken place. G Heppner	cfe-3b-ps1 Reset (Controls Related)			
13-Mar	PR-080	I		1b-ps1	Yellow quench link trip was caused by 1b-qd1 quench detector. The quench detector tripped because of a real magnet quench at Y12QFA3_A2VT. The beam permit tripped after the quench link. There was a real magnet quench at y12q18. There was a high beam loss at g1-lm18. I could not tell if there were any p.s. problems before the quench because pscumpr did not the correct data. There is now 28 beam induced quench for this run. -Ganetis [quench]	Beam Induced Quench #028	y12-Arc Quad	1	1

RHIC QLI Events for the month of March

RHIC Physics fy05 (2004-2005)

13-Mar	PR-081		I	3b-ps1	Yellow quench link trip was caused by 3b-qd1 quench detector. The quench detector tripped because of a real magnet quench at Y2DSA5_A4VT. The beam permit tripped after the quench link. There were real magnet quenches in sector 2 between D11 and D14. There was a high beam losses at g2-lm11, g2-lm12, and g2-lm13. I could not tell if there were any p.s. problems before the quench because pscompare did not have the correct data. There is now 29 beam induced quench for this run. -Ganetis [quench]	Beam Induced Quench #029	Y2-Arc Dipole	I	I
14-Mar	PR-082		I	10a-ps3.A	The blue quench link tripped due to quench detector 10a-qd1 whereas the signal B9DRDX_VT pulled the link. Looking at both bi9-dh0 and bi9-dhX, Postmortems indicated both supplies moved before T=zero, note that these two supplies are nested. With power supply bi9-dhX being the inside of the current loop of the two, closer observation indicated that power supply bi9-dh0 may have been the cause. However, too close to call, the Quench Detector picked up the sharp signal change from the bi9-dhX first so this supply may well be the problem. G Heppner	bi9-dhX-ps or bi9-dh0-ps (IR Supplies)			
15-Mar	PR-083		I	QD	5b-ps1	Blue and yellow quench link trips was caused by 5b-qd1. The quench detector's DSP was hung. I had to reset the DSP to get the quench detector working. At the time the DSP failed there was beam loss at g4-lm19, g4-lm20, and g5-lm21. I believe the DSP problem was caused by radiation. -Ganetis	DSP Reset required for 5b-qd1 due to a concentrated radiation period (Other)		
19-Mar	PR-084		I	10a-ps3.A	There appeared to be no problems found with the power supplies by initially looking at the Postmortem Plots. All signals appear to be normal before T=zero. However, Sudden Current Spikes are seen on only two of the nested quad power supplies (running steady currents: yi10-qf1-ps (RAW) = +28.29943 amps and yi10-qd2-ps (RAW) = +16.39986 amps.) as seen using Qdplots. They both appear to be in synchronization with the first spike starting at T= -0.44994 seconds. Yi10-qf1-ps (RAW) peak spike of +1.07997 amps, yi10-qd2-ps (RAW) peak spike of +1.18009 amps. A second and even larger spike occurs at T= -0.13333 seconds, yi10-qf1-ps (RAW) peak spike of +5.32728 amps and yi10-qd2-ps (RAW) peak spike of +6.11851 amps. There is a System Error indication for this quench detector which I don't quite understand and George Ganetis will have to identify that cause but without other conclusive evidence, it appears that these two supplies caused the 10a-qd2 quench detector tripped the link due to large current spikes. G Heppner	Sudden Current Spikes on Power Supplies yi10-qf1 and yi10-qd2. (IR Supplies Changed to Quench Detector Fault 10a-qd2)			
21-Mar	PR-085		I	3b-ps1	FitReader for this event indicated that a normal reset did not restore the failed cfe-3b-ps1 so an AC Reset was required and this brought down Both Links. G Heppner	3b-ps1 Failed, AC Reset brought down both links. (Controls Related)			
21-Mar	PR-085		Y	3b-ps1	FitReader for this event indicated that a normal reset did not restore the failed cfe-3b-ps1 so an AC Reset was required and this brought down Both Links. G Heppner	3b-ps1 Failed, AC Reset brought down both links. (Controls Related)			
21-Mar	PR-086		I	4b-time.A	Postmortems and Snapshot indicated for bo3-qf2-ps that the Current stopped climbing while Iref continued. (See more details below in PR-087) G Heppner	bo3-qf2-ps (IR Supplies)			
21-Mar	PR-087		I	4b-time.A	Power Supply s/n 013 tripped twice while ramping from Injection to Store. Unit tripped on Error, Current would stop at 20.6 amps while Iref continued up the ramp. Difference between the two caused a high error past the threshold for the maximum time out, pulling the Blue Link. 1) Replaced Voltage Regulator and Current Regulator Cards, Supply ran fine up. 2) Put original Current Reg card back in, Supply still ran fine. 3) Put original Voltage Reg card back in, Supply still ran fine. 4) Unable to re-create the original fault, 150 amps Suncraft was replaced with s/n 006 5) Time of call 12:05 / Time Finished and handed back to MCR 13:40 (Total Repair Time = 95 minutes.) G Heppner	bo3-qf2-ps (IR Supplies)			
22-Feb	PR-088		I	3b-ps1	FitReader for this event indicated that a normal reset did not restore the failed cfe-3b-ps1 so an AC Reset was required and this brought down Both Links. G Heppner	3b-ps1 Failed, AC Reset brought down both links. (Controls Related)			
22-Feb	PR-088		B	3b-ps1	FitReader for this event indicated that a normal reset did not restore the failed cfe-3b-ps1 so an AC Reset was required and this brought down Both Links. G Heppner	3b-ps1 Failed, AC Reset brought down both links. (Controls Related)			
24-Mar	PR-089	M	M	4b-time.A	1. Alcove 9a Timing Resolver replaced. 2. Replaced 4 broken magnet tree fans. 3. Self check completed on all quench detection UPS's. 4. Network card for 7c quench detector UPS replaced. 5. AC power line meter connected to 208Vac in 1004B ps rack. 6. All snakes and rotators were run up to operating current. 7. All snakes and rotators are in the STANDBY state with no faults. 8. All snakes and rotators alarms are now enabled and go to the alarm screen. 9. Voltage regulator cards swapped between: (bo2-qf8 & bi1-qf9), (bi1-qf1 & bo2-qd1), (bi12-qf9 & bo11-qf8), (yi11-qf1 & yo12-qd1). 10. Installed jumper on 3u chassis backplane J24 of bi2-dhx, bi2-dh0, b2-dhx and b2-dh0. 11. All Gamma-T's were put into the OFF state. 12. A Hysteresis ramp was done with the pp21 ramp. -Don Bruno	Scheduled Maintenance			
27-Mar	PR-090		I	8b-ps1	The 8b-qd1-quench detector caused the blue quench link trip. The quench detector tripped because of a real magnet quench at B7QFQ2_VT. The beam permit tripped after the quench link. There was one real magnet quench at the b7q2 magnet. High beam losses were seen at b7-lm3.1, b7-lm2.1 and g7-lm1. There was no indication of a power supply fault. There are now 30 beam induced quench for the Fy05 Run. G Heppner Oops, I confess my sin. Too optimistic, I turned off the ac dipole in the AGS and double the bunch intensity, which caused the blue quench. However, the good part is this is not snake! -Mei	Beam Induced Quench #030	b7q2	I	I

RHIC QLI Events for the month of March

RHIC Physics fy05 (2004-2005)

30-Mar	PR-091	I		1b-ps1	The 1b-qd1-quench detector caused the blue quench link to trip. The quench detector tripped because of a sudden increase in current due to a wrong ramp factor. The beam permit tripped 1 microsecond after the quench link. There was no real magnet quenches nor was there any indication of a power supply fault. G. Heppner Physics / MCR Logs: 00:15: This probably happened because I activated rot3 when being at injection. Why the machine then went from park to store again is not clear. -- Wolfram . 00:19: I think we ramped back up because the rot3 ramp was still active. I activated the pp21 ramp and tried to ramp down to park to recover the blue link - then the yellow linked dropped. Wigman indicated an error loading the ramp.-- PH	Blue Mains Ramped from Park to Store (Operator Error - Wrong Ramp Command)			
30-Mar	PR-092		I	7b-ps1	The 7b-qd1-quench detector caused the blue quench link to trip. The quench detector tripped because of a sudden increase in current due to a wrong ramp factor. The beam permit was already down from PR-091. There was no real magnet quenches nor was there any indication of a power supply fault. G. Heppner Physics / MCR Logs: 00:19: I think we ramped back up because the rot3 ramp was still active. I activated the pp21 ramp and tried to ramp down to park to recover the blue link - then the yellow linked dropped. Wigman indicated an error loading the ramp.-- PH	Yellow Mains Ramped from Store to Park. (Operator Error - Wrong Ramp Command)			
30-Mar	PR-093	M	M	31-Mar	RHIC ps Maintenance Performed today: 1) Replaced 2 broken triplet magnet tree fans. 2) Checked alcoves 3c, 9c, 5c, 7a, 7c, and 9a for water. 3) Replaced Quench Detector UPS batteries in 9A, 11B, 2B, 10A and 12A. 4) Changed filters on the Main p.s.'s. 5) Did a high current Cu8 ramp to check 208Vac line voltage in 1004B. 6) Re-trained sextupoles in 11B. 7) Tested new TAPE procedure to train sextupoles. A little more testing needed. 8) Changed jumper settings of J24 on 3u chassis back plane of b12-dhx, b12-dh0, b2-dhx and b2-dh0. 9) Swapped Voltage regulator cards of b010-qf8 and b09-qf9. 10) All snakes and rotators left in the STBY state with no faults. 11) Still working on AGS cold snake p.s. wiring, quench detector wiring and magnet wiring. 12) Performed 2 hysteresis ramps with the pp21 ramp. You may want to do one more. -- Don Bruno [thc] [ps]	Installation of the New AGS Cold Snake Magnet.			
Total Counts:		14	7				S		\$

RHIC QLI Events for the month of April

RHIC Physics fy05 (2004-2005)

Date:	Reference ID	B	Y	QLI	Technical Notes	Analysis	Real Mag Quench Loc:	Beam Induced:	Magnets Quenched:
1-Apr	PR-094		I	6b-ps1	At 13:42:03, the 6b-qd2-quench detector caused the yellow quench link to trip. The quench detector tripped because of a real magnet quench at Y6QFQ2_VT. The beam permit tripped after the quench link. There was one real magnet quench in the Sector 6 Triplet Region at magnet y6q2. High beam losses were seen at g6-lm1 and y6-lm2.1. There was no indication of a power supply fault. There are now 31 beam induced quench for the Fy05 Run. -G. Heppner [yellow] [quench]	Beam Induced Quench #031	y6q2	1	1
3-Apr	PR-095	I	P	4b-time A/B	2005-Apr-03 18:45:12 Summary: Polarized proton setup proceeded throughout much of this shift. BLIP ran for 11 hours during the shift. Work in RHIC was hampered by a quench in both the blue and yellow rings that appears to have occurred because of a failed power supply in the cfe-4b-time VME chassis. The loss of the power supply for the chassis caused a loss of the 720 Hz event signal and disrupted timing for the both the RHIC and the AGS, causing permit and quench link interlocks and causing a loss of corrector control in the AGS. The VME failure required that the chassis be replaced. CAS performed this work, restoring cfe-4b-time to operation. Cryo also recovered during this time, however, repeated attempts to recover the quench link for blue were unsuccessful. W. Louie, G. Ganetis, and C. Schultheiss were contacted for assistance, and, as of the end of the shift, both Carl and George are working to diagnose and restore RHIC to operation.	No 720Hz due to faulty Controls VME Bucket (Controls Failure)			
3-Apr	PR-096		I	5b-ps1	Apr-04-2005 00:03: Yellow quench link trip was caused by 5b-qd1 quench detector. The quench detector tripped because of a large offset voltage in signal Y4QBA3_A2VT. It looks like the quench detector had it's signal offset value for this channel changed. This happened after the loss of the 720 Hz Event. -Ganetis [quench] 23:50: George has to trip both links to zero out calibration data in quench detectors, as some got bogus numbers in today's fiasco. We will have to recover both mains, but should not have to retrain sextupoles before another attempt at a hysteresis ramp. -TJS	Quench Detector Software reloaded due to Loss of 720Hz Signal by Controls			
3-Apr	PR-097	I		10a-ps3.B	Apr-04-2005 00:03: Yellow quench link trip was caused by 5b-qd1 quench detector. The quench detector tripped because of a large offset voltage in signal Y4QBA3_A2VT. It looks like the quench detector had it's signal offset value for this channel changed. This happened after the loss of the 720 Hz Event. -Ganetis [quench] 23:50: George has to trip both links to zero out calibration data in quench detectors, as some got bogus numbers in today's fiasco. We will have to recover both mains, but should not have to retrain sextupoles before another attempt at a hysteresis ramp. -TJS	Quench Detector Software reloaded due to Loss of 720Hz Signal by Controls			
3-Apr	PR-098		I	10a-ps3.A	There was no indication of a power supply at fault. However, Qdplots showed signal spikes for power supplies y110-qf1 and y110-qd2. See Quench Event PR-100 for Actual Cause. G. Heppner	Quench Detector 4-20ma Card (Quench Detector)			
4-Apr	PR-099		I	10a-ps3.A	George had Don who in turn called Joe who replaced a Buffer Card for as per George's diagnostics for y110-qd2-ps. MCR called, unable to bring the link up, I got called. Supply Control Bucket left in Local. Joe went back out, put the unit in remote. MCR now happy! Still no indication of a power supply at fault. Qdplots still showed signal spikes for power supplies y110-qf1 and y110-qd2. See Quench Event PR-100 for Actual Cause. G. Heppner	Quench Detector 4-20ma Card (Quench Detector)			
4-Apr	PR-100		I	10a-ps3.A	Quench Events PR-098 and PR-099 were caused by a Quench Detector card that had to be replaced. G. Heppner George's initial analysis was that it is y110-qd2 power supply. Don had replaced a buffer card. Then the QLI was recovered. As we were bringing the magnets to injection George called. He said that his previous analysis was wrong about y110-qd2 power supply. The actual problem is in the quench detector and a card needs to be replaced. It will take an hour. At the same time I am letting PHENIX have their 45 min access. -Sanjee	Quench Detector 4-20ma Card (Quench Detector)			
4-Apr	PR-101	I		7b-ps1	The 7b-qd1-quench detector caused the blue quench link to trip. Voltage tap B6DSA4_A3VT tripped the quench detector first. The ramp was too fast causing multiple taps to exceed their tuned thresholds. There was no indication of a power supply fault. G. Heppner 2005-Apr-04 16:25:00 A blue QLI occurred when the down sequence opposed to the rot down sequence was inadvertently utilized. (The rot3 opposed to the pp21 ramp was loaded, so the wrong slow factor was used.)	Wrong Ramp Program Used. (Operator Error)			
4-Apr	PR-102	I		7b-ps1	The 7b-qd1-quench detector caused the yellow quench link to trip. Voltage tap Y6DSA4_A3VT tripped the quench detector first. The ramp was too fast causing multiple taps to exceed their tuned thresholds. There was no indication of a power supply fault. G. Heppner 2005-Apr-04 16:32:00 A yellow QLI occurred once the correct rot down sequence was issued. The yellow mains had ramped to park and back to top energy when the wrong down ramp was first used. D. Bruno reported that the yellow QLI could be associated with the mains being off hysteresis.	Wrong Ramp Program Used. (Operator Error)			
4-Apr	PR-103		I	8b-ps1	19:37: The 8b-qd2-quench detector caused the yellow quench link to trip. The quench detector tripped because of a real magnet quench at Y7QFQ3_VT. The beam permit tripped after the quench link. There was one real magnet quench in the Sector 7 Triplet Region at magnet y7q3. High beam losses were seen at y7-lm3.2 and y7-lm3.1. There was no indication of a power supply fault. There are now 32 beam induced quench for the Fy05 Run. -G. Heppner [rhic] [quench]	Beam Induced Quench #032	y7q3	1	1
6-Apr	PR-104	M	M	10a-ps3.A / 10a-ps3.B	Continued work on the AGS Cold Snake for last minute changes and leak checks. RHIC was supposed to run with a Fill while a Four Hour window was available for Controlled Entry into the AGS Ring. However, due to problems that had occurred during the night, accesses were required into RHIC for repairs. It was then decided to have a declared Maintenance Day. G. Heppner RHIC ps Maintenance Performed today: 1. Corrector b9-h13-ps was swapped out. 2. Investigated trips of y110-qt4 and y110-qt5. We think the problem was a quench detector card and this card was swapped out. 3. There was a problem communicating with the 5b UPS for the 5b quench detector and we found that someone moved the network cable for this UPS and put it in the wrong port. This was fixed. 4. Thermocouples and heaters were added to 2 Cryo pipes on the AGS cold snake. I think these are the helium vent pipes but I am not positive. 5. Two hysteresis ramps were performed before handing the machine back over to MCR. -Don Bruno [rhic] [ps]	Maintenance			

RHIC QLI Events for the month of April

RHIC Physics fy05 (2004-2005)

6-Apr	PR-105	I		10a-ps3.A	17:03 This QLI was caused by the qpa for b9-dh0 tripping on an OVC fault. The p.s. did not show any signs of the current jumping up to cause this over-current if you look at the Postmortems. This was probably caused by a temporary loss of ac power to the qpa. 18:50 We checked the ac connections inside the qpa for b9-dh0. We did not really find anything loose but we reseated the connectors, tightened screws and pushed down on the wires in the insulation displacement connectors. The p.s.'s are now at park and handed back over to MCR. -Don Bruno [blue] [ps]	Quench Analysis: b9-dh0-qp, OVC Fault (QPA Fault)			
10-Apr	PR-106		I	10a-ps3.A	10a-qd2-quench detector caused yellow quench link trip. The quench detector tripped because of a large change in the current signal of Y110-QF1-PS. There was also a large change in the current signal for Y110-QD2-PS. The post mortem plots of p.s. currents do not show these large current changes. This Quench Event is similar to PR-098 where there was a problem with the 4 to 20mA card of the quench detector. That card was replaced with a brand new card (Card 8) and the original card ended up in (Card10) which contains the two channels for Y110-tq4 and Y110-tq5. It is possible that the original card is still contaminated or a problem may still exist within the 10a-qd2 quench Detector Bucket. Note, this bucket is located at the bottom of the rack where dirt can accumulate. G Heppner	Quench Detector 10a-qd2			
11-Apr	PR-107	I		10a-ps3.A	The 10a-qd1 Quench Detector brought down the blue link due to a Real Buss Quench at B9QFBU9_7VT, Sector 9 Quad Focus Buss 9-7 because of the transfer of Warm Gas from the b9-snk7-2.3 and b9-snk7-1.4 Snake Magnet Quenching SQ-001. G Heppner	Buss Quench at B9QFBU9_7VT, Sector 9 Quad Focus Buss 9-7 due to warm gas from b9-snk7-2.3 quench (SQ-001)	Quad Focus Buss 9-7		I
11-Apr	PR-108	I		4b-time.B	An AC Reset to cfe-4b-ps4, in which the Main Power Supplies VME-PLC Program Codes and Counters are located, caused an unknown condition, causing the Blue Main Dipole to trip on PFN1 and PFN2 Faults. Carl Schultheiss was notified and we worked this one trough together. G Heppner	PFN1 and PFN2 Fault, Blue Main Dipole 1004B			
11-Apr	PR-109		I	4b-time.B	A discussion with Carl Schultheiss, he explained that the mains will not trip above 5 amps from a control bit however a crash switch or normal power supply fault will bring down the main. This is built in safety device so that if a control bit accidentally were telling the supply to trip off, it would not be able until the supply had been ramped down below 5 amps. In this case, TAPE was initiated and when the supply was ramped to zero, it tripped off. TAPE then did not know of this condition and a Regulator Error fault then occurred. G Heppner	Regulator Error Fault, Yellow Main Dipole 1004B			
11-Apr	PR-110	I		7b-ps1	There appears to be a slight ripple in the voltage, current and ramping current in the Blue Main Dipole starting at ~1.7seconds prior to the trip. Qdplots indicated that the Main Dipole Taps throughout the Ring began to rise at a greater rate then normal. Wrong Ramp used. Verified by calling MCR. G Heppner 17:38 this was generated by accidentally running the Down ramp instead of the RotDown ramp. I've added extra checks to hopefully prevent this in the future. -TJS	Wrong Ramp Executed (Operator Error)			
12-Apr	PR-111	I		10a-ps3.A	FitReader indicated that cfe-10a-qd1 had failed. MCR ramped down then proceeded to perform a reset, this took down the blue link. G Heppner	Quench Detector cfe-10a-qd1 required AC Reset			
12-Apr	PR-112	I		12a-ps1.A	Difference in Reference and Current (Range Error) for bi12-qf9-ps following times: April 12, 16:55:18, 12 17:32:45, 18:30:03 and 20:29:41. Fiber Optics card replaced for bi12-qf9-ps as per Don Bruno. In doing so, the supply must be turned off and in turn, this will automatically bring the blue link down. G Heppner	bi12-qf9-ps, Fiber Optics card replaced (Iref/Current Range Error)			
13-Apr	PR-113		I	10a-ps3.A	The 10a-qd2-quench detector caused the yellow quench link to trip. The quench detector tripped because of a large change in the current signal of Y110-QF1-PS. There was also a large change in the current signal for Y110-QD2-PS. The postmortem plots of p.s. currents do not show these large current changes. This Quench Event has been is similar to PR-098 and PR-106 where the 4 to 20mA card of the quench detector was replaced. G Heppner Wing swapped out the cable on the yellow 10a quench detector. -Don Bruno	Quench Detector 10a-qd2			
15-Apr	PR-114	I		4b-time.A	A power dip had occurred at 03:18 in which bo3-snk7-2.3 and bo3-snk7-1.4 magnets quenched at Top Operating Current. Because of this, a flow of Warm Gas from the b9-snk7-2.3 and b9-snk7-1.4 Snake Magnet caused a Real Buss Quench at B3QFBU9_7VT, Sector 3 Quad Focus Buss 9-7. This caused the 10a-qd1 Quench Detector to bring down the blue link. G Heppner	Power Dip Induced Quench	B3QFBU9 7		I
15-Apr	PR-115	I		4b-time.A	Recovering from the power dip that had occurred at 03:18 (PR-114), the link would not recover due to a Fan Fault on QP06-R4BOFF1-b-qtrm-qp. MCR had called Don and after he analyzed the problem, notified CAS but due to shift changes it took longer than usual. Eventually they replaced the air vane switches (Tech Time 36 minutes). G Heppner	QPA Fan Fault			
19-Apr	PR-116	M		2b-ps1	1) Tested AGS beam permit circuit with AGS cold snake p.s.'s. Will want to test this one more time because we might have to make a change. 2) Replaced current regulator card for bo3-snk7-2.3-ps. Found bad relays on it. 3) We did an ac reset on 4b-ps4 to see what effect it had the mains and we learned it does have an effect but more investigation is required. The problem is reproducible. 4) We completed one hysteresis ramp before handing the RHIC p.s.'s back over to MCR. Don Bruno	Maintenance			
20-Apr	PR-117		I	10a-qd2	The 9c-qd1-quench detector tripped because it detected a Gas Cool Lead Quench at yo9-snk7-R2_GL. A Cryogenic Flow Rate problem for this device (flow had been too low for over an hour) caused the Gas Cooled Lead to heat up and eventually quenched. Note that this device was not replaced. This caused the yo9-snk7.2.3-ps to trip off at operating current causing its magnet to quench. Approximately 2.149 seconds later, the yo9-snk7-1.4 magnet quenched due to perturbation. Then, the 10a-qd2-quench detector caused the yellow quench link to trip. The quench detector tripped because of a BUSS quench (Y9QFBU9_7VT) located in the yo9 snake magnet due to heated gas after the yo9-snk7-2.3 and yo9-snk7-1.4 magnets quenched. -G Heppner [yellow] [quench]	Cryo LeadFlow	Y9QFBU9 7		I
23-Apr	PR-118		I	7b-ps1	The blue and yellow link was pulled by the 7b-qd1 Quench Detector. The quench detector tripped because of the quick rise in voltage taps B6DSA4_A3VT (1.876mv) and Y6DSA4_AVT (1.888mv), which is a usual indication that the improper ramp rate was used from Store Energy to Injection. Looking at the new Buffer for the wfgman, the reference setpoint for all the main power supplies where set at Injection Current. This would force the mains to ramp quickly. G Heppner	Wrong Ramp Factor (Ops Error)			

RHIC QLI Events for the month of April

RHIC Physics fy05 (2004-2005)

23-Apr	PR-118	R		7b-ps1	The blue and yellow link was pulled by the 7b-qd1 quench Detector. The quench detector tripped because of the quick rise in voltage taps B6DSA4_A3VT (1.876mv) and Y6DSA4_AVT (1.888mv), which is a usual indication that the improper ramp rate was used from Store Energy to Injection. Looking at the new Buffer for the wfgman, the reference setpoint for all the main power supplies where set at Injection Current. This would force the mains to ramp quickly. G Heppner	Wrong Ramp Factor (Ops Error)			
24-Apr	PR-119		I	4b-time A	The Yellow Link tripped because of a Fan Fault on y04-qf6-qpa and CAS had to swap out the unit with another on, s/n 01057. G Heppner	QPA Fan Fault			
24-Apr	PR-120		I	4b-time A	TAPE had to be aborted due to a y-dmain-ps Reg PLL and Reg Watchdog fault. Somehow it would appear that the control power to the Yellow Main Dipole Power Supply had been shut off. The procedure to swap out a QPA for a quad magnet does not require one to turn off the Dipole Main Breakers or Control Power. Either case, by looking at all the Alarm faults indicated; a "C" Run should have been initiated in order to restore the regulator. Unknown as to how this happened, the Counter will indicate "Other" for this cause. G Heppner	YMD Control Power to Off, Required "C" Run to restore (OTHER)			
27-Apr	PR-121	I		11b-ps1	Wfgman Archive: Blue and Yellow indicate Reference at Injection, all supplies tripped at that point. Postmortem Files for Power Supplies not available at the time of this report. The facility encountered a major power dip due to a quick passing thunderstorm front dropping both links at Injection Current. G Heppner	Major Power Dip (Quick Thunderstorm)			
27-Apr	PR-121		PD	11b-ps1	<i>Physics / MCR Logs:</i> NSRL physics ran for 2.87 hours during this shift. BLIP ran 6.08 hours during this shift. RHIC physics was severely hampered by Cryo lead flow interlocks and a series of severe power dips that disabled the entire accelerator complex. These problems were aggravated by severe weather conditions that occasioned implementation of the severe weather shutdown after conferring with J. Sandberg and C. Montag. As of the end of the shift, work continues to recover the Cryo lead flow interlocks.	Major Power Dip (Quick Thunderstorm)			
Total Counts:			12	14					

RHIC QLI Events for the month of May

RHIC Physics fy05 (2004-2005)

Date:	Reference ID	B	Y	QLI	Technical Notes	Analysis	Real Mag Quench Log:	Beam Induced:	Magnets Quenched:
2-May	PR-122	I		6b-ps1	The 6b-qd1 quench detector tripped the Blue Link due to a real Buss quench at B5QFQ6.4VT due to Perturbation from the b5-rot3-2.3 and b5-rot3-1.4 magnets that first quenched 5.024 seconds earlier (SQ-007). Cryogenic flow is counterclockwise which would allow the heat wave generated by the Rotator Quench to go from Sector 5 to Sector 4 putting these magnets in harms way. G Heppner	Cryo Induced Heat Wave Buss Quench due to Magnet b5-rot3-2.3 quenching. (Other)	B5QFQ6.4VT		1
2-May	PR-123	I		6b-ps1	While recovering from PR-122, the postmortems show nothing obvious. B5-qd2-qd pulled the link but there were no faults indicated. A possible Power Supply to QPA connection may be the fault. A second attempt to recover the Blue link was successful. G Heppner	Possible cable problem between b5Qd2 and QPA (IR Supplies)			
3-May	PR-124	I		4b-time-A	The Facility experienced a Controls Failure at 7b-ps1. Attempts to recover caused both links to go down. Refer to the Physics/MCR Log comments that follow. G Heppner	C. Whalen reports that the Operations File System computers (acnlm82, acnlm83, & acnlm84) and process server acnlm91 crashed. C. Whalen and R. Katz halted the disc scan operation after it was apparent that the scans would take several hours. Running the quench recovery for both RHIC rings. (Controls Related)			
3-May	PR-124	C		10a-ps1-A	The Facility experienced a Controls Failure at 7b-ps1. Attempts to recover caused both links to go down. Refer to the Physics/MCR Log comments that follow. G Heppner	C. Whalen reports that the Operations File System computers (acnlm82, acnlm83, & acnlm84) and process server acnlm91 crashed. C. Whalen and R. Katz halted the disc scan operation after it was apparent that the scans would take several hours. Running the quench recovery for both RHIC rings. (Controls Related)			
3-May	PR-125	I		10a-qd2	Recovering from the previous Control Failure, there was a problem with recovering the Yellow Link. Talking with Wing Louis on the phone, we could see that QPARC-A1 RotRQ2 Timing Resolver indicated that some program kept cycling a reset command like a loop command was being sent. Turns out that this was still related to a Control Failure (PS Snapshot Server). G Heppner	PS Snapshot Server seems to have been causing the problems with the quench recovery. A Marusic stopped the task. The quench recovery has completed. (Controls Related)			
4-May	PR-126	M	M	blue 4b-time-A yellow 8b-ps1	<i>RHIC ps Maintenance performed today:</i> 1) Removed extension cord for UD1-UD2 ps1 in the ATR line and plugged the ps1 into the outlet in the UD1-UD2 ps. 2) Re-potted RHIC snake magnets in alcoves 3c and 5c. 3) Checked ac connections on RHIC snake p.s.'s in alcoves 3c, 5c, 7a, and 7c. 4) Replaced the power supply for b5-rot3-2.3-ps. 5) Quenched AGS cold snake magnet at 290A. 6) Added fans to box covering 533mcm connections of AGS cold snake magnet. 7) AGS cold snake p.s.'s are unlocked. 8) Disconnected a scope from y12-dt0-ps digital isolation card. 9) Replaced a wire on the ZFCT connector of b2-dt0-ps backplane. 10) Replaced y8-dt0-ps firing board. 11) Installed voltage monitoring boards in sector 1. Don Bruno [rhic] [ps]	Scheduled Maintenance from 0800 to 1630			
9-May	PR-127	I		4b-time-A	03:01 b03-qd2-ps tripped to the OFF state bringing down the link. I am going to have CAS swap out the control card on the p.s. That may or may not be the problem. I already turned the p.s. back on and ran it to 1 amp to make sure it would turn back on ok. Don Bruno [blue] [ps] 03:24 CAS swapped out the control card. I asked MCR to run quench recovery and I will watch to make sure it all comes up ok. Don Bruno [blue] [ps]	b03-qd2 had tripped to the OFF state (IR Supply Fault) CAS replaced the Control Card.			
9-May	PR-128	I		4b-time-A	Supply had tripped to the off state. As I was analyzing the live data and unaware that MCR had called Don who was on the road, Don had had this problem at 02:10:48 this morning (PR-127). Don informed MCR that we would replace the supply then called us. G Heppner	b03-qd2 had tripped to the OFF state (IR Supply Fault). Supply Replaced along with a new Node Card Cable.			
13-May	PR-129	M		8b-ps1	A Planned Scheduled Shutdown as of Thursday, May 12, 2005 E-mail received 16:37:00. Restricted / Limited work only, the Blue Link was pulled at 1004B placing b8-dtX to Standby and then to proceed to 1004B to work on the readback problem for b03-qd3-ps. G Heppner	Team inspected the "D" connector at the supply because the Lemo Connector was checked a few days ago when this happened and all was well. Next, they put a signal onto the "D" connector and read it all the way back to the Pot Page and all was well. Replaced the Buffer card for Jim to inspect with flex / heat test. Possible problem may still be in the Backplane or the 3U Control Chassis. More to follow if this is not the fix. Bruno			
18-May	PR-130	M		4b-time-A	A Scheduled 4 Hour Maintenance period today started at 07:00 with access into the AGS Ring for the AGS Cold Snake Magnet to replace Quench Relief Stack Number 1 due to a leak and to replace the Burst Disc as it too had become damaged. Work on this magnet was completed by 09:00. Heppner	RHIC PS Maintenance Performed Today: 1) Reprogrammed voltage monitor one wire interface chassis in alcove 1B. 2) Replaced voltage monitor on I-O1Q4 magnet tree. 3) Removed heater on relief valve of AGS Cold snake and then re-installed it. 4) Tested new compensation for b4-dt0 then re-installed original compensation. 5) Checked D connectors on b5-sq4-ps and b5-sq4-qd. 6) Replaced upn fan switches for b03-qd7-qd. Don Bruno [rhic] [ps]			
26-May	PR-131	I		4b-time-A	16:06 The quench link trip that happened at 10:56:48 this morning looks like all the quench detector FEC got re-booted at the same time. To my knowledge this never happened before. The Controls group is investigating. Janetis [ps quench]	Physics / MCR Log : 19:50 Summary: A. Marusic reports that this Mornings pair of QLI's occurred when all of the quench detector FEC's rebooted at the same time. This also quenched all of the snakes, rotators, and most of the auxiliary power supplies to trip, and all of the DX heaters to fire. Investigation into the cause of the event will continue.	Unknown / Data Not Logged		
26-May	PR-132	I		6b-ps1	16:06 The quench link trip that happened at 10:56:48 this morning looks like all the quench detector FEC got re-booted at the same time. To my knowledge this never happened before. The Controls group is investigating. Janetis [ps quench]	Physics / MCR Log : 19:50 Summary: A. Marusic reports that this Mornings pair of QLI's occurred when all of the quench detector FEC's rebooted at the same time. This also quenched all of the snakes, rotators, and most of the auxiliary power supplies to trip, and all of the DX heaters to fire. Investigation into the cause of the event will continue.	Unknown / Data Not Logged		
30-May	PR-133	I		8b-ps1	y08-qd3-ps caused this qli. The message that came at the end of the automatic analysis program needs to be corrected. You can see the p.s. status says ACOC so now we just have to get the message fixed at the end. The message should say the p.s. caused the quench because it had an ACOC. After speaking with CAS it sounds like they found a bad ACOC relay. I asked them to swap it out. I am hoping this will fix the problem. Don Bruno [yellow] [ps]				
31-May	PR-134	I		8b-ps1	MCR: 23:21 Summary: Progress was made with development of the RHIC pp22, 205 GeV. Ramp. At present, the beam survives well in both Rings through the entire ramp. Three beam induced quenches occurred this shift during ramp tuning. In order to prevent further quenches, M. Bai is lowering the triplet loss monitor trip thresholds.	New Ramp with Higher Energies to 205Gev, the 8b-qd1-quench detector caused the Blue quench link to trip. The quench detector tripped because of a real magnet quench at B7QFQ2.VT. The beam permit tripped prior to the quench link. There was one real magnet quench in the Sector 7 Triplet Region at magnet B7q2. Highest beam losses occurred at B7-im2.1. There was no indication of a power supply fault. There are now 33 beam induced quenches for the Fy05 Run. G Heppner [rhic] [quench]	B7QFQ2.VT	1	1

RHIC QLI Events for the month of May

RHIC Physics fy05 (2004-2005)

31-May	PR-135	1	2b-ps1	<p>17:41 We didn't even realize that a second QLI occurred before we asked Wing Louie to investigate. As noted above the automated analysis didn't end up in the e-log for the original QLI/JP 17:43 Wing asked us to run recovery again. He will speak with Don tomorrow about timing issues regarding how the TAPE sequence executes/JP1, CCP</p>	<p>While recovering from the previous Beam Induced Quench (PR-134) a Fan Fault located in service building 1002B due to bo2-qd3-qps caused this QLI Event/G. Heppner [thic] [quench]</p>			
31-May	PR-136	1	8b-ps1	<p><u>Physics / MCR Logs:</u> 19:18 now we increased tunes gradually with the energy increase from stone17 down the ramp. Changes are in 0.01-0.03 ranges.-VP, CCP 19:19 also orbit corrections (BC and IR local) were applied to stone17 using the orbits taken right before the beam abort.VP, CCP. 19:19, RHIC acceleration ramp started, ramp id pp22, 1117581274Sequence: 19:22, Beam Abort, 8b-ps1 dropped [Loss Monitor 1]Sequence: 19:35, Are the BLM working? -Ganeti[quench]. 20:00, Yes, but the permit isn't getting pulled early enough. We've lowered the accumulated loss thresholds to avoid a third quench.JP1. 19:50, M. Bai was consulted about lowering RHIC BLM loss thresholds. She has instructed us to lower the accumulated loss thresholds for all of the lm's from 1200 to 1000</p>	<p>New Ramp with Higher Energies to 205GeV, the 8b-qd1-quench detector caused the Blue quench link to trip. The quench detector tripped because of a real magnet quench at B7QFQ2_VT. The beam permit tripped prior to the quench link. There was one real magnet quench in the Sector 7 Triplet Region at magnet b7q2. Highest beam losses occurred at b7-lm2.1. There was no indication of a power supply fault. There are now 34 beam induced quenches for the Fy05 Run.-G. Heppner [thic] [quench]</p>	B7QFQ2_VT	1	1
31-May	PR-137	1	8b-ps1	<p><u>Physics / MCR Logs:</u> -JP1 21: 12 Beam losses in the area of the quench. Mei suggested going to 3 bunch ramps, rather than lower any BLM thresholds.-JP1 21:31 Three bunches are not preventing quenches. The loss will simply grow a little longer until the magnets quench. Only the BLMs can prevent quenches. I think we are more sensitive to beam losses because of the higher beam energy (the highest beam energy ever accelerated in RHIC). We should reduce the threshold of all triplet loss monitors as indicated by the last few quenches.Thomas 22:00 I spoke with Mei again. She's stuck in traffic at the moment, but she'll jump on the computer in a few minutes and make the change that you're suggesting. In the meantime, we'll try a ramp with only 3 bunches/JP1</p>	<p>New Ramp with Higher Energies to 205GeV, the 8b-qd1-quench detector caused the Blue quench link to trip. The quench detector tripped because of a real magnet quench at B8QFQ3_VT. The beam permit tripped after the quench link. There was one real magnet quench in the Sector 8 Triplet Region at magnet b8q3. High beam losses where seen at b8-lm3.1 and b8-lm 3.2. There was no indication of a power supply fault. There are now 35 beam induced quenches for the Fy05 Run.-G. Heppner [thic] [quench]</p>	B8QFQ3_VT	1	1
Total Counts		10	3					

RHIC QLI Events for the month of June

RHIC Physics fy05 (2004-2005)

Date:	Reference ID	B	Y	QLI	Technical Notes	Analysis	Real Mag Quench Loc:	Beam Inducible	Magnets Quenchable
1-Jun	PR-138		I	4b-time.B	Physics / MCR Log: , Jun-01-2005 06:23 Yellow quenched while ramping to injection. Don is checking. -Sanjeev Jun-01-2005 06:31 It looks like this QLI was caused by a regulator error from the yellow quad main p.s. This shows up in the automatic analysis program above next to occ Ctrl. y-qmain-status: Reg Err. -Don Bruno [yellow] [ps] 06:35 Yellow quench was caused by a regulator error in the main power supplies. Don notes that the error should clear by the quench recovery script. If the script fails to clear the error, we were asked to contact Carl Schultheiss	extensive discussions with Carl, it is still undetermined as to the reason why the Yellow Quad Power Supply encountered a Regulator Error Fault. There is some leaning towards a brief power interruption within the control circuits that operate the Regulator. Investigation is still on going as of this writing. G. Heppner			
2-Jun	PR-139	I		4b-time.A	Qdplots indicated that the supply, while at operating current of ~266.26 amps suddenly went to ~138 amps for approximately 3.4 seconds before failing. Trip indication was Sbtv-Error. G. Heppner	19:48 I think this p.s. will have to be swapped out. I asked MCR to try one hysteresis ramp first but I think the supply will trip again. I will get CAS ready to swap out the supply. - Don Bruno [blue] [ps]			
2-Jun	PR-140	I		4b-time.A	The 4b-qd1 Quench Detector tripped the link due to a current spike indicated at B3QDQ8.VT. The current dropped at b4-q89-ps and is reflected as seen at b4-q89-ps and b3-q89-ps as the current bumps at the time q89 current drops. These three supplies are nested together. There was no magnet quenches associated with this trip. G. Heppner	B4-q89-ps s/n 004 was swapped out and replaced with s/n 007.			
3-Jun	PR-141	I		7b-ps1	2005-Jun-03 20:57:08 George notes that the wrong Slowfactor was loaded during the down ramp. We believe that the wrong slow factor must have been loaded when we issued a hard stop to terminate the ramp. We are running the recovery script.	Off the Hysteresis			
3-Jun	PR-142		I	1b-ps1	2005-Jun-03 20:57:08 George notes that the wrong Slowfactor was loaded during the down ramp. We believe that the wrong slow factor must have been loaded when we issued a hard stop to terminate the ramp. We are running the recovery script.	Off the Hysteresis			
4-Jun	PR-143	I		12a-ps1.A	16:42, the b12-q7 supply will not remotely go into standby. D. Bruno has requested that Support investigate local. ak [blue] [ps]	17:20 CAS (Frank and George) reseated the connectors on the housekeeping p.s. I am hoping this will help with the OFF trip problem. Then I found I could not go to standby remotely. They reseated the 25 pin D connector for the node card at the p.s. end. This did not help. Next, they swapped the digital isolation card and that worked. I could go to standby remotely. Then they put the original digital isolation card back in and that worked as well, when it did not work before. I am asking them to put a new digital isolation anyway and we will examine the old card. There could still be another problem on the backplane connector that the digital isolation card plugs into. Don Bruno [blue] [ps]			
8-Jun	PR-144	M	M	BOTH	Maintenance Day.				
9-Jun	PR-145	I		11b-ps1	B10QBA3_A2VT caused the Quench Detector to trip the link. The Reading was much greater then compared to normal set. It was -0.034 compared to -0.002 and also appears to be noisy. G. Heppner	REFER to PR-148 for Findings (Loose Voltage Tap Wire / 11b-qd1 Quench Detector)			
10-Jun	PR-146	I		8b-ps1	Talking to Carl Schultheiss, the explanation as to this sudden change in current when the supply was told not to needs further investigation. He believes this is within the Main Power Supplies Control System. The sudden increase in current did < 7 amps per second was to great of an increase for the DX Magnets in which the DX Magnet Quench Detectors detected and pulled the link. G. Heppner	Blue Main Dipole Power Supply Sudden Current Ramp. (Further Analysis is required)			
10-Jun	PR-147	I	I	4b-time.A	Physics / MCR Log: , 13:15 Beam aborted by loss monitor permit pull in 8b-ps1. Turning off critical device for accesses STAR requires time in their IR, vacuum personnel are going to revise the g5 ion pump. G Heppner will go in for a circuit breaker reset and controls hardware personnel need to replace the utility module for 6b-ps1. 13:55, this is due to work on the 6b-ps1 FEC. -gjm	Controls Related, 6b-ps1-fec			
10-Jun	PR-148	I		11b-ps1	B10QBA3_A2VT caused the Quench Detector to trip the link. This time it was pretty evident as the voltage tap signal begins to fall at ~15 seconds prior to the T = zero. (See Findings below in the Physics / MCR Logs Comment) G. Heppner	Physics / MCR Log: , 14:35 Blue QLI during hysteresis ramp at 11b-ps1. 14:43 after reviewing the quench log data George would like to enter 11b and look at the voltage taps. He is coming to MCR for a key. 15:04 STAR, power supply and vacuum entries complete. G Ganets and W Louie are accessing the ring. 15:54 Wing and George found a loose connection on a terminal block. Restoring systems			
12-Jun	PR-149		I	4b-time.A	There was enough data that clearly shows that lead faults on the snakes in sector 3 quenched both blue and yellow snakes. The warm gas form these snake quenches quenched the main bus for both blue and yellow rings. Data also shows that the lead flow was increased for a short time before it went to a low level. This is what I believed happened. The lead current data from the Cryo server went down. The lead flow automatically goes to a high flow default value. The Cryo operators then brought the lead flow to a low value. This was in their Cryo e-log. This is what caused the snakes to have a lead fault. They should not have done this with current in the magnet. Some how the Cryo operators did not know the machine was a top energy and or MCR did not know it either. George Ganets	3C Snake Buss Quench caused the 3C snake to quench in turn causing a heat wave to travel, quenching the Y3QDQ8 Buss taking down the Yellow Ring.	Y3QDQ8 Buss		I
12-Jun	PR-150	I		4b-time.A	There was enough data that clearly shows that lead faults on the snakes in sector 3 quenched both blue and yellow snakes. The warm gas form these snake quenches quenched the main bus for both blue and yellow rings. Data also shows that the lead flow was increased for a short time before it went to a low level. This is what I believed happened. The lead current data from the Cryo server went down. The lead flow automatically goes to a high flow default value. The Cryo operators then brought the lead flow to a low value. This was in their Cryo e-log. This is what caused the snakes to have a lead fault. They should not have done this with current in the magnet. Some how the Cryo operators did not know the machine was a top energy and or MCR did not know it either. George Ganets	3C Snake Buss Quench caused the 3C snake to quench in turn causing a heat wave to travel, quenching the B3QFBU9.7 Buss taking down the Blue Ring.	B3QFBU9.7 Buss		I
14-Jun	PR-151		I	8b-ps1	Postmortem: y08-qd1, y08-qd2 and y08-qd3 all show the Laws of a Real Magnet Quenching. The 8b-qd2-quench detector caused the Yellow quench link to trip. The quench detector tripped because of a real magnet quench at Y8QFQ2.VT. The beam permit tripped prior to the quench link. There was one real magnet quench in the Sector 8 Triplet Region at magnet y8q2. Highest beam losses occurred at y8-lm2.1. There was no indication of a power supply fault. There are now 36 beam induced quenches for the Fv05 Run. George Heppner [blue] [quench]	Beam Induced Quench # 36	Y8QFQ2	I	

RHIC QLI Events for the month of June

RHIC Physics fy05 (2004-2005)

14-Jun	PR-152		1	10a-ps3.A	05:40:00 D. Bruno was contacted in reference to a WFG reference range error alarm for the y09-qf6 supply. PSCompu shows that the current reference followed the WFG during the 84-bunch ramp, but not during this last ramp. D. Bruno reported that Support should replace the current regulator card. 06:26:00. The beam has been dumped by Operations. 06:34:00 Support is replacing the current regulator card for the y09-qf6 supply. 06:43 Support has replaced the current regulator card for y09-qf6 but we have to now wait to recover the quench link due to the 8 minute delay in the quench recovery process-jak, bsb 07:00 y09-qf6 won't come out of local. Support investigating. -JLN	A wfgRefRange Error and CAS replaced the current regulator but then the supply indicated y09-qf6-ps, Sby-Error, AC Power, Standby, Local, Error signal. Quench, (AC Phase). According to Don, CAS then swapped out the control card and the supply was then fine. Back at the shop, Jim Osterlund found that the original K1 and K2 Relays where still mounted and a Tap Test verified one of the two was bad. He replaced both. G. Heppner			
24-Jun	PR-153		1	2b-ps1	Physics / MCR Log: 09:45, we have to re-set a quench FEC. This requires to have the magnets sitting at zero. So, another 15 minutes delay-Mei 09:58 Well, George needs an additional 8 minutes to collect the PM data-Mei 09:45, Beam Abort, 2b-ps1 dropped Yellow QuenchSequence 10:01 Quench link dropped due to cfc-2b-qd2 needing to be reset due to ping failure-jak	Quench Detector 2b-qd2 was reset, bringing down the yellow link. See Physics / MCR Log info below for detailsG. Heppner			
24-Jun	PR-154	1		6b-ps1	Technical Notes / Sequence of Events: Postmortems: The following Magnets, b06-qd1, b06-qf2, b5-qf3 and b5-qd2 also show the Laws of a Real Magnet Quenching. The 6b-qd1 quench detector caused the blue quench link to trip. The quench detector tripped because of a real magnet quench at B6QFQ3_VT. The beam permit tripped after the quench link. There was one real magnet quench in the Sector 6 Triplet Region at magnet b6q3. Highest beam losses occurred at b6-lm3.2. There was no indication of a power supply fault. There are now 37 beam induced quenches for the Fy05 Run-Gregg Heppner (rhic)[quench]	Beam Induced Quench # 37	b6q3	1	
25-Jun	PR-155	NC		12a-ps1.A	Physics / MCR Log: Jun-25-2005 01:00 Accelerator physics finished. Ramping RHIC and ATR supplies to zero. HP is heading to the control room for a key to survey the dumps. Mode switch for AGS cold snake work. Jun-25-2005 01:43 RHIC and ATR power supplies are off. HP has surveyed the dumps; RHIC to RA. Jun-25-2005 01:11 What a miracle! The machine is still intact after all these "horrible" things! Truly enjoyed and See you next year! -Mei	End of the RHIC Physics Run 05!G. Heppner(RHIC RUN 06 - Science Will Return!)			
25-Jun	PR-156		NC	12a-ps1.A	Physics / MCR Log: Jun-25-2005 01:00 Accelerator physics finished. Ramping RHIC and ATR supplies to zero. HP is heading to the control room for a key to survey the dumps. Mode switch for AGS cold snake work. Jun-25-2005 01:43 RHIC and ATR power supplies are off. HP has surveyed the dumps; RHIC to RA. Jun-25-2005 01:12 What a miracle! The machine is still intact after all these "horrible" things! Truly enjoyed and See you next year! -Mei	End of the RHIC Physics Run 05!G. Heppner(RHIC RUN 06 - Science Will Return!)			
Total Counts:		10	7					1	2